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WORKPLACE RELATIONS MINISTERS' COUNCIL

AUSTRALIAN CODE FOR THE TRANSPORT OF EXPLOSIVES BY ROAD AND RAIL

THIRD EDITION

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FOREWORD

This is the third edition of the Australian Code for the Transport of Explosives by Road and Rail (AE Code) (this Code). It replaces the second edition that was endorsed by the Standing Committee on Transport (SCOT) in March 2000. This code has been prepared by the Australian Forum of Explosives Regulators (AFER) and was endorsed by the Workplace Relations Minister's Council in April 2009. Since 2005, the Workplace Relations Minister's Council (WRMC) has assumed responsibility for coordinating national uniform explosives laws in Australia.

Its objective is to provide a uniform basis for Commonwealth, State and Territory legislation governing the transport of explosives and it is designed to apply to all road and rail transport in Australia. This Code is applicable to civilian and military explosives transport. This Code does not apply to the transport of explosives by air or by sea. The International Civil Aviation Organisation - Technical Instructions for the Safe Transport of Dangerous Goods by Air DOC 9284 (ICAO TI), including the ICAO TI-SUPPLEMENT, and the International Air Transport Authority – Dangerous Goods Regulations (IATA DGR) apply for air transport. The International Maritime Dangerous Goods Code (IMDG Code) applies to transport by sea.

It is envisaged that this Code will be adopted in the explosives legislation of the Commonwealth and all States and Territories. However, it is strongly recommended that readers of this publication contact the Competent Authority in their jurisdiction (listed in Section 1.6) to ascertain the status of this Code in relation to local legislative requirements.

This Code is the primary reference for explosives and has been designed to complement and be consistent with the 7th Edition of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code), which currently includes limited and/or advisory provisions regarding explosives (dangerous goods of Class 1).

This Code adopts the classification, packaging and labelling system for explosives, detailed in the United Nations publication "Recommendations on the Transport of Dangerous Goods – Model Regulations, 15th revised edition" (*UN Model Regulations*) and is designed to complement the IMDG Code.

ACKNOWLEDGMENTS

This third edition of the Australian Code for the Transport of Explosives by Road and Rail (AE Code) would not have been possible without the expert technical advice provided by the Australian Forum of Explosives Regulators (AFER), the Code Working Group and other contributing organisations, which included:

1. State and Territory regulatory authorities responsible for the transport of explosives by road and rail in their respective jurisdictions, including:

Department of Mines and Energy, Queensland
Department of Mines and Petroleum, Western Australia
WorkSafeVictoria, Victoria
NT WorkSafe, Northern Territory
WorkCover, New South Wales
Office of Regulatory Services, WorkCover (ACT)
Department of thePremier and Cabinet, SafeWork SA, South Australia
Department of Justice, Workplace Standards, Tasmania

2. Commonwealth agencies, including:

Department of Education Employment and Workplace Relations (DEEWR)
Department of Defence (DoD)
Department of Infrastructure, Transport, Regional Development and Local Government
Australian Maritime Safety Authority (AMSA)
Civil Aviation Safety Authority (CASA)
Department of the Prime Minister and Cabinet (PM&C)
Attorney General's Department (AG's)

3. Industry Representatives, including:

Australian Explosives Industry and Safety Group (AEISG)
Queensland Rail (QR)
Australian Explosives Transport Safety and Security Group
Pyrotechnics Industry Association of Australia (PIAA)

READER'S GUIDE

The AE Code consists of nine Chapters, with Chapter nine containing nine Appendices:

Chapter 1 Sets out the scope of this Code and includes a list of defined terms used in this Code. A separate Glossary of Terms can be found in Appendix 5. The role and function of the Australian Forum of Explosives Regulators (AFER) is explained in this chapter, together with a list of the Competent Authorities for road and rail transport of explosives.

Chapter 2 Outlines the UN criteria for classification of explosives and defines the risk categories for loads. These risk categories are used throughout this Code. Additional classification information is provided in the Addenda to Appendix 2.

Chapter 3 Specifies the requirements for marking of packages, vehicles and transport containers and provides examples of required labels.

Chapter 4 Details the requirements for the documentation to be carried on vehicles transporting explosives.

Chapter 5 Is divided into two parts which outline the requirements for packaging explosives in packages, IBCs, unit loads, large packages and portable tanks. Each particular explosive listed in Appendix 2 has packing instructions assigned to it, which are themselves described more fully in Appendices 4.1, 4.2 and 4.3.

Chapter 6 Details design requirements, including locking provisions and locks, for carry boxes, enclosed vehicle bodies, freight containers and bulk and special vehicles.

Chapter 7 Specifies the rules for stowage of loads, including segregation, classification of mixed loads and specification of vehicle load limits.

Chapter 8 Details the procedures applying to the consignment, loading, unloading and transport of explosives, including security requirements.

Chapter 9 Consists of nine Technical Appendices. Each appendix commences with some explanatory notes, followed by a list and any Addenda.

Appendix 1 Is a list of explosives and related goods in alphabetical order.

Appendix 2 Is a list of explosives and related goods in numerical order based on their UN Number, detailing the Proper Shipping Name, Classification Code, the Subsidiary Risk, the Packing Group, the Special Provisions and the Packing Instructions as information adopted from the *UN Model Regulations* and includes three Addenda.

READER'S GUIDE (continued)

Appendix 3 Contains a series of Special Provisions adopted from the *UN Model Regulations* and includes three Addenda.

Appendix 4.1 Contains the Packing Instructions for packages, large packages and IBCs for the goods listed in Appendix 2.

Appendix 4.2 Contains the Tank Instructions for the goods listed in Appendix 2 and includes an Addendum that reproduces relevant sections of the *Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code)*.

Appendix 4.3 Contains the Bulk Container Instructions for the goods listed in Appendix 2.

Appendix 5 Contains a glossary of terms used to describe some substances and articles and related expressions.

Appendix 6 Is a list of generic or N.O.S. entries relevant to explosives and related goods.

Appendix 7 Contains guidance on the allocation of *Hazchem Codes*.

Appendix 8 Is a list of substances and articles against their Classification Code.

Appendix 9 Is a list of '*Goods Too Dangerous to be Transported'*, prohibited for transport unless specifically authorised by a Competent Authority.

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CHAPTER 1: SCOPE AND DEFINITIONS

1.1 Scope and Interpretation of this Code

(1) This Code sets out the requirements which apply to the transport of explosives of Class 1 subject to this Code by road and rail in Australia. This Code does not apply to the transport of explosives by sea or the carriage of explosives by air.

(2) Nothing in this Code shall apply to the transport of explosives of other than Class 1. However, when other dangerous goods are being transported with goods of Class 1, the provisions of Chapter 7 of this Code and the segregation provisions of Part 9 of the ADG Code may apply (if there is any conflict refer to the Competent Authority).

(3) Subject to Commonwealth State and Territory legislation this Code may not apply to the transport of explosives as follows:

(a) by or on behalf of an emergency service, where the explosives are for use by the service in an emergency or to protect the safety of persons, property or the environment;

(b) which have been confiscated or received by, and under the direct supervision of, an emergency service or the Competent Authority in the cause of public safety;

(c) where those explosives are unrestricted explosives, being carried for personal use and there is a reasonable excuse for such transport which excludes commercial transport; or

(d) where minor quantities of small arms ammunition, propellant powders or cap type primers up to Risk Category 1 in Table 2.1, are carried for personal use and there is a reasonable excuse for such transport which excludes commercial transport.

(4) If a word or expression is defined:

(a) in a document referred to in this Code; and

(b) in Section 1.2 of this Code using a different form of words but in a manner that expresses the same idea as the definition in the document referred to; then

(c) the expression is taken, so far as practicable, to have the same meaning as it has in the document referred to in this Code.

1.2 Definitions

Some additional and more technical type terms and definitions are included in Appendix 5 of this Code. For the purposes of this Code, unless the contrary intention appears:

"ADG Code" means the Australian Code for the Transport of Dangerous Goods by Road and Rail;

"AE Code" means the Australian Explosives Code;

"AFER" means the Australian Forum of Explosives Regulators;

"AMSA" means Australian Maritime Safety Authority;

"Approved" means approved by the Competent Authority;

"AS" followed by a group of letters or a group of one or more letters or numbers, means the particular Australian Standard so identified and published by Standards Australia, as amended from time to time;

"Authorisation" means by way of a licence, permit or other means;

"Authorised explosive" means an explosive defined and classified in accordance with the laws relating to explosives in a State, Territory or the Commonwealth;

Note: *An explosive substance, material or article may be authorised under a range of classifications depending on the packing used for that explosive;*

"Authorised name" means the name authorised by the appropriate Commonwealth, State or Territory Competent Authority;

"Authorised officer" means a person appointed under the relevant statute of the Commonwealth, State or Territory jurisdiction which covers the transport of explosives by road and/or rail;

"Authorised person" as applicable in Section 8.5.3, means a person responsible for security during rail transport of explosives and who has been security cleared in accordance with the relevant provisions of Section 8.2.3;

"Bulk" (transport in) means, the transport of, or to transport, explosives in a receptacle other than packaged explosives;

"Bulk container" means a containment system (including any liner or coating) intended for the transport of solid substances which is in direct contact with the containment system. Packagings, intermediate bulk containers (IBCs), large packagings and portable tanks are not included;

A bulk container is:

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the transport of goods by one or more means of transport without intermediate reloading;
- fitted with devices permitting its ready handling;
- of a capacity of not less than 1.0m^3;

Examples of bulk containers are freight containers, offshore bulk containers, skips, bulk bins, swap bodies, trough-shaped containers, roller containers, and load compartments of vehicles;

"Carry box" means a demountable and portable box used to transport explosives on board a vehicle but does not include a freight container or enclosed vehicle body;

"Category" means the risk category assigned to a load of explosives by Table 2.1 of this Code;

"Class" means, in relation to dangerous goods, the number assigned to the goods indicating the hazard, or most predominant hazard, exhibited by the goods;

"Classification" means the process of classifying goods to define and describe characteristics and properties of the substances, material and articles. For explosive substances, material and articles such classification is carried out in accordance with the processes in the *UN Model Regulations* and the *UN Manual of Tests and Criteria* and will, where appropriate, include approval of the packaging necessary to meet a particular classification;

"Classification Code" means, in relation to explosives of Class 1, the Division and Compatibility Group to which an explosive has been assigned;

"Closed transport unit" means a transport unit which totally encloses the contents by permanent structures. Transport units with fabric sides or tops are not closed transport units;

"Code" means the AE Code unless the contrary intention appears;

"Combination packaging" means a combination of packagings for transport purposes consisting of one or more inner packagings secured in an outer packaging;

"Combination road vehicle" means a group of road vehicles consisting of:

(a) a prime mover and two or more trailers; or

(b) a rigid vehicle and one or more trailers;

"Combustible liquid" means a combustible liquid within the meaning of AS 1940;

"Commonwealth explosives" means explosives that:

(a) are the property of, or are in the possession or control of, the Commonwealth;

(b) have been manufactured by the Commonwealth and, in pursuance of an arrangement made with the Commonwealth, are intended to be, or are being, exported from the Commonwealth; or

(c) are the property of, or are in the possession or control of, the government or the naval, military or air forces of another country and are in the Commonwealth or a Territory with the approval of the Commonwealth for the purposes of, or a purpose related to, the defence of the Commonwealth;

"Compatibility Group" means the letter which follows the Division number and which describes the type of explosives as outlined in Addendum I to Appendix 2 of this Code. Explosives bearing the same letter are deemed to be compatible unless otherwise specified;

"Competent Authority" means the principal officer or statutory authority having statutory duties and powers in relation to the transport of explosives. A list of Australian Competent Authorities for the road and rail transport of explosives is outlined in Section 1.6;

"Composite packaging" means a packaging consisting of an outer packaging and an inner receptacle so constructed that the inner receptacle and the outer packaging form an integral packaging. Once assembled it remains thereafter an integrated single unit; it is filled, stored, transported and emptied as such;

"Consignor" means a person who:

(a) is named or otherwise identified as the consignor of the goods in transport documentation for the transport of the goods by road or rail; or

(b) engages a prime contractor, either directly or through an agent or other intermediary, to transport the goods; or

(c) has possession of, or control over, the goods immediately before the goods are transported by road; or

(d) loads a vehicle with the goods, for transport by road or rail, at a place:

(i) where dangerous goods in bulk are stored; and

(ii) that is unattended (except by the driver of the vehicle) during loading;

"Dangerous goods" means:

(a) in relation to dangerous goods of Class 1 (explosives), the substances and articles included in Class 1 by the criteria in Addendum I to Appendix 2 of this Code and listed in Appendix 2 of this Code; and

(b) in relation to dangerous goods of other than Class 1, the substances and items classified as dangerous goods under the ADG Code, as adopted and applied;

"Detonator" means any plain, electric, electronic, signal tube type detonator, detonating relay connector, bunchblock with detonators and any adaptation thereof;

"Division" means, when followed by numerals, the Hazard Division to which an explosive is assigned using the criteria outlined in Addendum I to Appendix 2 of this Code;

"Emergency Information Panel" or "**EIP**" means a placard or panel as set out in Chapter 3 of this Code, used on a transport unit or IBC to display summary emergency information;

"Emergency service" means:

(a) an ambulance, fire, police or other emergency service;

(b) a unit of the Defence Force corresponding to a service mentioned in paragraph (a);

"Emergency temperature" means the temperature at which emergency procedures must be implemented;

"Explosives" in relation to the requirements of this Code means dangerous goods of Class 1;

"Fire risk substance" means a readily ignitable solid substance including waste paper, hay, straw (bhusa), sawdust or woodchips;

"Fire risk vehicle" means:

(a) a vehicle transporting a fire risk substance;

(b) a tank vehicle containing a combustible liquid; or

(c) a vehicle transporting a combustible liquid in bulk;

"Flammable liquids" are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (such as paints, varnishes, lacquers, etc., but not including substances which, on account of their other dangerous characteristics, have been included in other Classes) which give off a flammable vapour at or below 60°C closed-cup test (corresponding to 65.6°C open-cup test), normally referred to as the "flashpoint". This also includes:

(a) liquids offered for transport at temperatures at or above their flashpoint; and

(b) substances transported or offered for transport at elevated temperatures in a liquid state, which give off a flammable vapour at temperatures equal to or below the maximum transport temperature;

"Flashpoint" means the lowest temperature, corrected to a barometric pressure of 101.3 kPa, at which application of a test flame causes the vapour of the test portion to ignite under the specified conditions of a test;

"Freight container" means an article of transport equipment that is of a permanent character and accordingly strong enough to be suitable for repeated use; specially designed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading; designed to be secured and/or readily handled, having fittings for these purposes, and approved in accordance with the International Convention for Safe Containers (CSC), 1972, as amended. The term "freight container" includes neither vehicle nor packaging. However, a freight container that is carried on a chassis is included.

For the purpose of this Code it also means a re-usable container of the kind mentioned in AS/NZS 3711 that is designed for repeated use for the transport of goods by one or more modes of transport, however, such a container will not be accepted for sea transport unless it complies with the CSC;

"Gas" or **"Gases"** - a gas is a substance which:

(a) at 50°C has a vapour pressure greater than 300 kPa; or

(b) is completely gaseous at 20°C at a standard pressure of 101.3 kPa;

"Hazchem Code" in relation to a load of explosives means the Hazchem Code derived for those goods under Appendix 7;

"High Security Risk Load" means a load of explosives as described in Section 2.4;

"IBC" see *"Intermediate bulk container"*;

"Imported" means imported from a place outside the Commonwealth of Australia;

"Inner packaging" means a packaging that:

(a) is capable of performing its containment function without being placed in another packaging; and

(b) is placed in an outer packaging to form a combination packaging for transport;

"Inner receptacles" means receptacles which require an outer packaging in order to perform their containment function;

"Intermediate bulk container" or **"IBC"** means a rigid or flexible portable packaging for the transport of dangerous goods that has been approved in accordance with Chapter 6.5 of the ADG Code; and

(a) has a capacity of not more than:

(i) for solids of Packing Group I packed in a composite, fibreboard, flexible, wooden or rigid plastics or wooden container – 1,500 L;

(ii) for solids of Packing Group I packed in a metal container – 3000 L; and

(iii) for solids or liquids of Packing Group II and III – 3000 L;

(b) is designed for mechanical handling; and

(c) is resistant to the stresses produced in usual handling and transport, as determined by tests;

"Labels" means a label as illustrated in Chapter 3, identifying the Class or Division, or a subsidiary risk of a dangerous substance or article;

"Large packagings" means packagings complying with the requirements in Chapter 5, consisting of an outer packaging which contains articles or inner packagings and which:

(a) are designed for mechanical handling; and

(b) exceed 400kg net mass or 450 L capacity but have a volume of not more than 3000 L;

"Liner" means a separate tube or bag inserted into a packaging, (including IBCs and large packagings) but not forming an integral part of it, including the closures of its openings;

"Liquids" are dangerous goods which at 50°C have a vapour pressure of not more than 300 kPa (3 bar), which are not completely gaseous at 20°C and at a pressure of 101.3 kPa, and which have a melting point or initial melting point of 20°C or less at a pressure of 101.3 kPa. A viscous substance for which a specific melting point cannot be determined shall be subjected to the ASTM D 4359-90 test; or to the test for determining fluidity (penetrometer test) prescribed in Section 2.3.4 of Annex A of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)*, [* United Nations publication: ECE/TRANS/185];

"Manual of Tests and Criteria" means the United Nations publication entitled "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria" as amended;

"MEGC" means a multiple-element gas container, comprising:

(a) multi-modal assemblies of cylinders, tubes and bundles of cylinders that are interconnected by a manifold and assembled within a framework; and

(b) service and structural equipment necessary for the transport of gases;

"NATA" means the National Association of Testing Authorities, Australia;

"NEQ" see "*Net Explosive Quantity"*;

"N.E.S." means "not elsewhere specified";

"Net Explosive Quantity" or "NEQ" means the actual quantity, expressed by mass, of explosive substance in an article, package or container; (synonymous with Net Explosive Content, refer to Glossary in Appendix 5);

"N.O.S." means "not otherwise specified";

"Outer packaging" means a packaging that forms the outer protection of a composite or combination packaging; and includes any absorbent material, cushioning and other components used to contain or protect inner receptacles or inner packagings;

"Overpack" means an enclosure used to contain one or more packages and to form one unit for convenience of handling and stowage during transport. Examples of overpacks are a number of packages either:

(a) placed or stacked on to a load board such as a pallet and secured by strapping, shrink wrapping, stretch wrapping, or other suitable means; or

(b) placed in a protective outer packaging such as a box or crate;

"Owner" in relation to a vehicle, is a person who:

(a) is the sole owner, joint owner or part owner of the vehicle; or

(b) has possession or use of the vehicle under a credit, hire-purchase, lease or other agreement, except an agreement requiring the vehicle to be registered in the name of someone else;

"Package" means the complete product of the packing of the goods for transport and consists of the goods and their packaging;

"Packaged explosives" means explosives are in:

(a) a container with a capacity of not more than 450 L; and

(b) a container with a net mass of not more than 400kg;

"Packaging" means one or more receptacles and any other components or materials necessary for the receptacles to perform their containment and other safety functions;

"Passenger vehicle" means a road vehicle constructed primarily for the carriage of persons and includes sedans, station wagons, vans and utility vehicles;

"Placard" means a label or Emergency Information Panel that is fixed to, stencilled or printed on, or placed in a frame, that is fixed to a transport unit or placardable unit and includes the marking 'EXPLOSIVES' as described in Section 3.4.1;

"Placardable unit" means any large receptacle or other large item such as an IBC, pressure drum, tube, MEGC or demountable tank, that individually has a capacity of more than 500kg (L), other than:

(a) a transport unit; or

(b) large packaging; or

(c) an overpack; or

(d) a segregation device;

"**Politically motivated violence check"** or **"PMV"** means a security assessment in respect of a person, issued by ASIO;

"Portable magazine" means a portable magazine constructed to the requirements of AS 2187.1;

"Portable tank" means a multimodal tank that:

(a) is designed primarily to be loaded onto a vehicle or ship; and

(b) has a capacity of more than 450 L; and

(c) is equipped with skids, mountings, stabilizers and accessories to facilitate manual handling; and

(d) is capable of being loaded and unloaded without removing its service or structural equipment; and

(e) is capable of being lifted when full;

However road tank-vehicles, rail tank-wagons, non-metallic tanks, gas cylinders, large receptacles, and intermediate bulk containers (IBCs) are not considered to be portable tanks;

"Practicable" means practicable having regard to:

(a) the severity of the hazard or risk in question;

(b) the state of knowledge about that hazard or risk and any ways of removing or mitigating that hazard or risk;

(c) the availability and suitability of ways to remove or mitigate that hazard or risk; and

(d) the cost of removing or mitigating that hazard or risk;

"Prime contractor" means a person who, in conducting a business for or involving the transport of explosives, undertakes to be responsible, or is responsible, for the transport of the explosives;

"Proper Shipping Name" or **"PSN"** means that part of the full name specified in Column 2 of Appendix 2 which appears in upper case;

"Protected work" means:

(a) any dwelling-house, place of worship, public building, school or college, hospital, theatre or any other building or facility in which persons are accustomed to assemble;

(b) any factory, workshop, office, store, warehouse or shop;

(c) depot for the keeping of dangerous goods;

(d) any significant public infrastructure, for example dams, electrical substations, gas pipelines; or

(e) an open place where the public is accustomed to assemble, open place of work in another occupancy;

"Quantity" means, unless otherwise specified:

(a) for detonators, the number of items; or

(b) for all other explosives, the NEQ of the explosives;

"Rail operator" means a person who undertakes to be responsible, or is responsible, for:

(a) the transport of dangerous or other goods by rail; or

(b) the condition of a unit of rail rolling stock transporting the goods by rail;

"Rail tank wagon" means a rail wagon of which a tank forms an integral part;

"Rail wagon" means a unit of rolling stock that:

(a) is designed to carry freight by rail; and

(b) bears a unique identifying number or alphanumeric identifier;

"Receptacle" means a containment vessel for receiving and holding substances or articles including any means of closing the vessel;

"SADT" see "*Self-accelerating decomposition temperature"*;

"Salvage packagings" means a special packaging into which damaged, defective, leaking or non-conforming dangerous goods packages or dangerous goods that have spilled or leaked, are placed for purposes of transport for recovery or disposal;

"Security cleared" means a person who has undergone national criminal history checks and PMV checks and has been deemed appropriate to have unsupervised access to explosives;

"Self-accelerating decomposition temperature" or **"SADT"** means the lowest temperature at which self-accelerating decomposition may occur for a substance in the packaging as used in transport. The self-accelerating decomposition temperature (SADT) shall be determined in accordance with the latest version of the *UN Manual of Tests and Criteria*;

"Single packagings" means a packaging that does not require an inner packaging to be capable of performing its containment function during transport and includes a composite packaging;

"Solids" are dangerous goods, other than gases, that do not meet the definition of liquids in this Chapter;

"Source of ignition" means a source of energy sufficient to ignite a flammable atmosphere including:

(a) a lighted match, a cigarette lighter, a lighted cigarette or other form of lighted tobacco, a lighted furnace, an incinerator, and any other naked flame; and

(b) electrical equipment that is not suitable for use in an area defined as a hazardous area in AS/NZS 60079.10 or AS/NZS 2430;

"Special vehicle" means a vehicle complying with the requirements of Section 6.4.2 which is used to transport explosives in Category 3 quantities;

"**Subsidiary risk**" means those other risks assigned to a substance or article as shown in Appendix 2 of this Code;

"Tank" means a receptacle in the form of a shell fitted with service equipment and structural equipment necessary to contain dangerous substances, and includes portable tanks, demountable tanks and the cargo receptacles of road tank vehicles and rail tank wagons, but does not include:

(a) receptacles, for substances of Class 2, that have a capacity of less than 450 L; or

(b) packagings that comply with Chapter 6.1 or 6.3 of the ADG Code; or

(c) bulk containers that comply with Chapter 6.8 of the ADG Code; or

(d) IBCs, MEGCs, cylinders or pressure drums;

"this Code" means this version of the Australian Explosives Code;

"Technical name" means a name that shall be a recognised chemical or other name currently used in scientific and technical handbooks, journals and texts. Trade names must not be used for this purpose;

"Temporary stop" means a stop of up to one hour during a vehicle's journey;

"Train manifest" means a list of rolling stock that makes up the train which provides information regarding dangerous goods carried as required by Section 8.2.9 of this Code;

"Transport document" means documentation that complies with the requirements for transport documentation outlined in Chapter 4 of this Code;

"Transport unit" includes:

(a) a vehicle; or

(b) a tank; or

(c) a bulk container; or

(d) a freight container;

"United Nations Number" or **"UN Number"** means, in relation to explosives:

(a) the substance identification serial number shown in Column 1 of Appendix 2 in relation to those goods; or

(b) the number assigned the goods by the UN Committee of Experts on the Transport of Dangerous Goods and published in the *UN Model Regulations*;

"Unit load" see *"Overpack";*

"Unrestricted explosives" means those explosives where no authority is required, in a particular jurisdiciton, to possess such explosives; e.g. distress signals, railway track signals, sparklers, party poppers, cartridges for power tools, small model rocket motors, starting pistol caps;

Note: *A check should be made with local Competent Authority to verify whether the above applies.*

"Vehicle" means:

(a) a road vehicle; and/or

(b) a unit of rail rolling stock.

1.3 List of Codes, Standards, Rules and Other Instruments Referred to in this Code

(1) In this Code, unless the contrary intention appears;

"ADR" means "L'Accord Européen relatif au Transport International des Merchandises Dangereuses par route" which translates as the "European Agreement Concerning the International Carriage of Dangerous Goods by Road";

"Australian Dangerous Goods Code" means the "Australian Code for the Transport of Dangerous Goods by Road and Rail" (ADG Code), published by the National Transport Commission;

"Australian Explosives Code" means the Australian Code for the Transport of Explosives by Road and Rail, published by Workplace Relations Ministers' Council (WRMC)

"Australian Standard" means a standard published by Standards Australia. (A list of Australian Standards referred to in this Code is set out in Section 1.3(2);

"Commonwealth Explosives Regulations" means the Commonwealth *Explosives Transport Regulations 2002*;

"CSC" see "*ICSC"*;

"Dangerous Goods – Initial Emergency Response Guide" means the Guide of that name published by Standards Australia as HB76;

"IATA DGR" means the Dangerous Goods Regulations published by the International Air Transport Association (IATA). These are based on the ICAO TI and are more restrictive than the ICAO TI;

"ICAO TI" *means the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air DOC 9284 including the ICAO TI-SUPPLEMENT published by the International Civil Aviation Organisation;*

"ICSC" means the "International Convention for Safe Containers". Also referred to as the CSC Convention;

"ILO" means the "International Labour Organization";

"IMDG Code" means the "International Maritime Dangerous Goods Code" published by the International Maritime Organisation (IMO);

"IMO" means the International Maritime Organisation;

"ISO" refers to a standard published by the International Standards Organisation;

"Load Restraint Guide" means the "Guidelines and Performance Standards for the Safe Carriage of Loads on Road Vehicles" prepared by the National Transport Commission and Roads and Traffic Authority NSW; and published by the National Transport Commission;

"Marine Orders Part 41" is delegated legislation, titled "Carriage of Dangerous Goods", adopted pursuant to section 425(1AA) of the Navigation Act 1912;

"UNECE" means the United Nations Economic Commission for Europe;

"UN Model Regulations" means the "United Nations - Recommendations on the Transport of Dangerous Goods – Model Regulations 15th revised edition", published by the United Nations;

"UN Manual of Tests and Criteria" means the "United Nations Recommendations on the Transport of Dangerous Goods – Manual of Tests and Criteria" published by the United Nations;

(2) The following Australian Standards and Handbooks are referred to in this Code:

AS D26	Tube fittings with Dryseal American standard taper pipe and unified threads for automotive and industrial use
AS 1210	Pressure vessels
AS 1744	Forms of letters and numerals for road signs (known as Standard alphabets for road signs)
AS/NZS 1841.1	Portable fire extinguishers – Part 1: General requirements
AS 1850	Portable fire extinguishers - Classification, rating and performance testing
AS 1851	Maintenance of fire protection systems and equipment
AS 1940	The storage and handling of flammable and combustible liquids
AS/NZS 2053.1	Conduits and fittings for electrical installations – Part 1: General requirements
AS 2187.1	Explosives - Storage, transport and use – Part 1: Storage
AS/NZS 2271	Plywood and blockboard for exterior use
AS/NZS 2430.3.1	Classification of hazardous areas – Part 3.1: Examples of area classification – General
AS 2700	Colour Standards for general purposes
AS 2809.1 AS 2809.4	Road tank vehicles for dangerous goods – Part 1: General requirements Road tank vehicles for dangerous goods – Part 4: Tankers for toxic and corrosive cargoes
HB76	Dangerous goods - Initial emergency response guide
AS/NZS 3711	Freight containers
AS 3790	Portable warning triangles for motor vehicles
AS 4145.1 AS 4145.4	Locksets – Part 1: Glossary of terms Locksets – Part 4: Padlocks
AS/NZS 4255.1 AS/NZS 4255.2	Security seals – Part 1: Classification Security seals – Part 2: Use
AS/NZS 60079.10	Electrical apparatus for explosive gas atmospheres – Classification of hazardous areas (IEC 60079-10:2002 MOD)
AS/NZS 60079.11	Explosive atmospheres Part 11- Equipment protection by intrinsic safety ‘i’

1.4 References to Other Codes, Standards and International Rules

(1) In this Code, a reference to a code, standard or international rule or a provision of a code, standard or international rule includes another code, standard or international rule or a provision of another code, standard or international rule as applied or adopted by, or incorporated in, the first mentioned code, standard or international rule, as the case requires.

(2) In this Code, unless the contrary intention appears, a reference to a code, standard or international rule is a reference to that code, standard or international rule as amended from time to time.

(3) If a code, standard or international rule, or a provision of a code, standard or international rule is applied or adopted by, or is incorporated in this Code, and contains a provision that is inconsistent with a provision of this Code, the provision of this Code prevails.

1.5 Australian Forum of Explosives Regulators (AFER)

1.5.1 Role of AFER

The Australian Forum of Explosives Regulators (AFER) is the forum of government authorities responsible for administering explosives safety and security legislation in Australia. The AFER reports to the Workplace Relations Ministers' Council (WRMC) on the development of nationally consistent explosives regulation, through the Safe Work Australia Council. In working towards this aim, AFER shall:

(1) Act as the lead body to provide recommendations to governments through the WRMC on nationally consistent explosives regulation.

(2) Advise governments on all aspects of explosives regulation safety, including classification, authorisation, packaging, labelling, manufacture, transport, import, export, storage, handling, sale, use, disposal and (as appropriate) security.

(3) Promote the development and implementation of nationally consistent legislation and safety and security standards to Ministers, heads of agencies and associated parties.

(4) Share and transfer knowledge between regulatory authorities for safe, secure and consistent explosives regulation.

(5) Provide technical and policy advice in the development of the Customs Regulations – Prohibited Imports (PIs) and to other specialised tasks as requested.

(6) Review incident/accident information and investigation results to improve safety and security outcomes nationally in explosives regulation.

(7) Review current trends in international model explosives codes, regulations and conventions to align internationally with the United Nations (UN) Globally Harmonised System for the Classification and Labelling of Chemicals (GHS) and the UN Model Recommendations for the Transport of Dangerous Goods (TDG), and with the air and sea modes.

(8) Provide a Forum for industry to share knowledge and to identify and resolve explosives related issues. This includes addressing issues related to approvals, exemptions and endorsements that are subject to this Code.

1.5.2 Function of AFER in Respect to this Code

To assist with the application of this Code, Commonwealth, State and Territory Competent Authorities have established AFER, which industry, Competent Authorities, or other interested parties can approach to obtain:

(a) national endorsement for:

  (i) packaging methods, packaging and packages other than those specified in this Code;

  (ii) unit load methods, bulk containers and other equipment other than those specified in this Code; or

  (iii) an approval where a single Competent Authority approval is restricted to one State or Territory;

(b) classifications of substances and other articles not included in this Code;

(c) interpretation of wording and of requirements set out in this Code; or

(d) endorsement to operate at variance with a requirement of this Code.

1.5.3 Applications

(1) Applications for any endorsement, under the terms mentioned, should normally be made in the first instance, to the relevant Competent Authority of the Commonwealth, State or Territory where the applicant resides, but may be made directly to AFER where the issue has national scope.

(2) An application for an endorsement shall:

(a) be made in writing to the Competent Authority;

(b) be signed and dated by or for the applicant;

(c) state the applicant's name and address;

(d) state the name of the person to whom, or the name or a description of the class of person to which, the application relates;

(e) specify the provisions of this Code to which the application relates;

(f) specify the explosives to which the application relates;

(g) where relevant state why, in the applicant's opinion, compliance with the provisions is not reasonably practicable;

(h) where relevant state why, in the applicant's opinion, the endorsement is not likely to involve greater risk than the risk involved in complying with the provisions;

(i) if the application relates to a vehicle, equipment, packaging or other thing – describe the thing;

(j) state the period for which the endorsement is sought; and

(k) state the geographical area within which the endorsement is sought.

(3) The Competent Authority or AFER may, by written notice, require the applicant to give to the Authority any additional information necessary for a proper consideration of the application.

(4) Where an issue has been submitted to an individual Competent Authority and they consider it will be applicable to other jurisdictions, or where the applicant so requests, the application will be forwarded to AFER for consideration.

1.5.4 Grounds for Endorsement

Endorsement to operate at variance with a requirement of this Code will only be considered by AFER where it does not adversely compromise safety or security where:

(a) the endorsement is consistent with the *UN Model Regulations* and/or the ADG Code;

(b) the endorsement represents a minor variation of this Code's requirements and is consistent with the intent, continued effectiveness and general nature of the requirement;

(c) additional time is warranted for the adoption of this Code requirement;

(d) this Code contains a printing error and the endorsement would represent a practice consistent with the intended text of the requirement;

(e) the endorsement is consistent with an amendment endorsed for inclusion in the next edition of this Code; or

(f) the endorsement represents a variation of this Code's requirement, does not adversely compromise safety or security and will lead to a recommendation for subsequent and relevant change to the next edition of this Code.

1.5.5 AFER Decisions

(1) Individual Competent Authorities, which have adopted or recognise this Code, have generally agreed to accept and apply the decisions of AFER in their jurisdictions. The applicability of decisions by AFER should be checked with the relevant Competent Authority. The individual Competent Authorities for transport are listed at Section 1.6.

(2) Decisions of AFER in relation to this Code will be made public. However, where commercial in confidence material is provided with respect to the application, confidentiality will be maintained.

Note: *AFER is not a legal entity and any decision made should be checked in each jurisdiction in order to determine its applicability.*

1.5.6 AFER Secretariat

In May 2006, the Workplace Relations Ministers' Council (WRMC) requested AFER to report to the WRMC. At that time the Office of the Australian Safety and Compensation Council (OASCC) provided the Secretariat function and facilitated that reporting function.

On 3 April 2009 Safe Work Australia was established, retaining the AFER Secretariat function, including reporting on behalf of AFER to the WRMC regarding progress in developing nationally consistent explosives regulation.

Contact Details:

AFER Secretariat
Safe Work Australia
GPO Box 9880
Canberra ACT 2601
Email: AFER.secretariat@safeworkaustralia.gov.au
Phone: 02 6121 9126; Fax: 02 6275 3883

1.6 Contact Details for Competent Authorities for Explosives

	Address	Telephone No.	Facsimile No.
Queensland	Chief Inspector of Explosives Department of Mines and Energy Queensland Minerals and Energy Centre 61 Mary Street BRISBANE QLD 4000 Email: explosives@dme.qld.gov.au www.dme.qld.gov.au	07 3224 7512	07 3235 4395
South Australia	Manager Dangerous Substances SafeWork SA Department of the Premier and Cabinet GPO Box 465 ADELAIDE SA 5001 www.safework.sa.gov.au	08 8226 4870	08 8226 4999
Tasmania	Manager, Dangerous Substances Unit Workplace Standards Tasmania Department of Justice PO Box 56 Rosny Park TASMANIA 7018 www.wst.tas.gov.au	03 6233 7657	03 6233 8338
Victoria	The Manager, Dangerous Goods WorkSafeVictoria 222 Exhibition Street MELBOURNE VIC 3000 www.worksafe.vic.gov.au	03 9641 1551	03 9641 1552
Western Australia	Chief Dangerous Goods Officer Resources Safety Division Department of Mines and Petroleum 303 Sevenoaks Street CANNINGTON WA 6017 www.dmp.wa.gov.au/resourcessafety	08 9358 8002	08 9358 8000
Australian Capital Territory	Executive Director Office of Regulatory Services Department of Justice and Community Safety GPO Box 158 CANBERRA ACT 2601 www.workcover.act.gov.au	02 6205 0200	02 6207 0336

Address	Telephone No.	Facsimile No.
New South Wales Team Manager Chemicals Team WorkCover NSW Locked Bag 2906 LISAROW NSW 2252 www.workcover.nsw.gov.au	02 43215000	02 29875597
Northern Territory Competent Authority NT WorkSafe GPO Box 1722 DARWIN NT 0801 Email: ntworksafe.deet@nt.gov.au	1800 019 115	08 8999 5141
Commonwealth Commander Joint Logistics Department of Defence Campbell Park Offices CANBERRA ACT 2600 Email: JLC-EOB-DOS-OFFICE@defence.gov.au	02 6266 4498	02 6266 4781
MARITIME: Australian Maritime Safety Authority (AMSA) The Manager, Ship Inspections Australian Maritime Safety Authority GPO Box 2181 Canberra ACT 2601 Email: dangerousgoods@amsa.gov.au www.amsa.gov.au	02 6279 5070	02 6279 5058
AVIATION: Civil Aviation Safety Authority (CASA) Civil Aviation Safety Authority GPO Box 2005 Canberra ACT 2601 Email: dg@casa.gov.au www.casa.gov.au	131757	1300 851 857 or (02) 62171300

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CHAPTER 2: CLASSIFICATION OF EXPLOSIVES AND CATEGORIZATION OF LOADS

2.1 Scope

Chapter 2 refers to the classification of explosives, including the assignment of Compatibility Groups, and defines the three risk categories which are applied throughout this Code.

2.2 Classification of Explosives (Class 1)

The classification of substances or articles considered for inclusion as explosives is outlined in Chapter 9 of this Code (Addenda I and II of Appendix 2).

2.3 Definition of Risk Categories

This Code establishes three Risk Categories which are applied to loads of explosives on vehicles and form the basis for the operation of the rest of this Code.

Table 2.1 defines these Risk Categories and where a reference is made in this Code to 'Category 1', 'Category 2' or 'Category 3' the reference shall be to this Table.

Consideration must also be afforded to the security risk associated with loads of explosives as set out below.

2.4 Definition of High Security Risk Loads of Explosives

(1) This Code establishes high security risk loads of explosives as outlined in Table 2.2.

(2) In determining whether the load is a High Security Risk Load the quantities of all explosives on the vehicle are to be aggregated and the Division determined in accordance with Section 7.3.2.

(3) Where explosives are transported with ammonium nitrate or ammonium nitrate mixtures in accordance with Section 7.3.1(3)(a), half the mass of the ammonium nitrate or ammonium nitrate mixtures shall, for the purpose of determining the total explosives load, be treated as explosives of Division 1.1, or Division 1.5 accordingly.

(4) Where explosives are transported with ammonium nitrate emulsions, suspensions, or gels (UN 3375), the total mass of the ammonium nitrate emulsions, suspensions, or gels (UN 3375) shall, for the purpose of determining the total explosives load, be treated as explosives Division 1.1 or Division 1.5 accordingly.

2.5 Fireworks Load Quantity Classification

Some jurisdictions may classify loads of fireworks based on quantities transported and hence consignors and prime contractors should consult with the local Competent Authority when transporting fireworks above 500kg (gross) or 250kg (NEQ) e.g. some jurisdictions may classify loads above these quantities as Classification Code 1.1G irrespective of individual explosives packaging classifications or classifications by default.

TABLE 2.1

Risk Categories for Explosives

Type of Explosives (2)	**Quantity per Vehicle** (1)		
Division	**Category 1 (Low Risk)**	**Category 2 (Moderate Risk)**	**Category 3 (High Risk)**
Division 1.1 A (3)	Transport must be specifically approved by the Competent Authority		
Detonators of 1.1B	≤125 items	>125–5000 items	>5000 items
All other **Division 1.1**	≤5kg	>5–250kg	>250kg
Division 1.2	≤5kg	>5–250kg	>250kg
Division 1.3	≤50kg	>50–1000kg	>1000kg
Detonators of 1.4B or 1.4S	≤125 items	>125 items	n/a (5)
All other **Division 1.4**	≤250kg	>250kg	n/a (5)
All other **Division 1.4 S** (other than Detonators)	Any quantity	n/a (5)	n/a (5)
Division 1.5	≤25kg	>25-250kg (4)	>250kg (4)
Division 1.6	≤25kg	>25kg	n/a (5)

Notes:

(1) *Quantity in NEQ, except where otherwise specified.*

(2) *For mixed loads, the Division and Compatibility Group for the entire load shall be determined as outlined in Section 7.3.2, prior to assigning the appropriate Risk Category to that load.*

(3) *Transport of explosives of Classification Code 1.1A is to be specifically approved by the Competent Authority.*

(4) *This applies only for the purposes of Section 8.4, quantities of explosives of Division 1.5 greater than 250kg are considered to be Category 3.*

(5) *"n/a"– means not applicable.*

(6) *For transport of Class 5 .1 with Class 1 refer to Sections 2.4(3) and 2.4(4) to determine the risk category*

Table 2.2
High Security Risk Loads of Explosives

Type of Explosive	Quantity
Division 1.1	Exceeding 1000kg
Division 1.2	Exceeding 5000kg
Division 1.3	Exceeding 1000kg
Division 1.4	Not applicable [see *Note (2)*(iv)]
Division 1.5	Exceeding 1000kg
Division 1.6	Not applicable [see *Note (2)*(iv)]

Notes:

(1) *The quantity specified in Column 2 is based on load per transport unit or the total load in a combination road vehicle.*

(2) *In determining what constitutes a 'High Security Risk Load' of explosives the following principles are relevant:*

(i) *Most explosives constitute a security risk, and some are considered to present a high security risk, e.g. detonators, boosters, grenades, anti-tank rockets. As such this Code includes provisions for implementing and maintaining appropriate security requirements throughout the transport process.*

(ii) *A relatively small (NEQ) load, of even high security risk explosives, does not constitute a 'High Security Risk Load' because of its relatively low direct potential consequences.*

(iii) *A 'High Security Risk Load' is considered one where the load is the risk, i.e. the potential for the load to be used directly for illegal purposes with high consequence, rather than a load containing explosives which present a risk of theft and other subsequent illegal purposes.*

(iv) *If the resultant load of explosives is of Division 1.4 or Division 1.6 the load will generally not be a 'High Security Risk Load'.*

CHAPTER 3: MARKING OF PACKAGES, VEHICLES AND TRANSPORT CONTAINERS

3.1 Scope

This Chapter sets out requirements for markings to be shown on packages of explosives and on vehicles, carry boxes, containers and IBCs used to transport explosives by road or rail.

3.2 Marking of Packages, Unit Loads, Carry Boxes and IBCs

Section 3.2 sets out requirements for the markings to be shown on packages, unit loads, carry boxes and IBCs of explosives.

3.2.1 Marking of Outer or Single Packagings

(1) All packaging markings required by Section 3.2.1 must:

(a) be readily visible and legible;

(b) be able to withstand open weather exposure without a substantial reduction in effectiveness;

(c) be displayed on a background of contrasting colour on the external surface of the package; and

(d) not be located with other package markings that could substantially reduce their effectiveness.

(2) The outer packaging of every combination packaging and every single packaging containing explosives must be clearly marked on the outside surface with:

(a) the Proper Shipping Name and Authorised Name of the explosives in the package;

(b) the expression “UN Number” or “UN” followed by the number specified in Appendix 2 for the explosives in the package;

(c) the Class label and Subsidiary Risk label or labels (if any) appropriate to the explosives in the package;

(d) the word ‘EXPLOSIVE’ in upper case, unless it is included in the Class label;

(e) means of identifying production details for traceability purposes;

(f) the name and address in Australia of the manufacturer or consignor (or the agent of one of these) of the explosives;

(g) the NEQ of the substance and the number of articles or units (e.g. boosters, plugs, cartridges, etc.) contained within;

(h) any additional markings required by Section 3.2.4; and

(i) packaging performance and specification markings as required by Chapter 5.

(3) If a Class label or Subsidiary Risk label is attached to a package or a bulk or freight container that has been imported into Australia, the label is taken to be substantially in the form specified for a particular Class or Subsidiary Risk in Section 3.6 if the label meets the specifications for format, design and colour applicable to dangerous goods of that Class or Subsidiary Risk in any of the following:

(a) UN Model Regulations;

(b) the IMDG Code;

(c) the IATA DGR;

(d) the ICAO TI.

3.2.2 Marking of Inner Packagings

(1) Every inner packaging containing explosives must be clearly marked on the outside surface with:

(a) the authorised name of the explosives in the packaging;

(b) the Class label and Subsidiary Risk label or labels (if any) appropriate to the inner packaging of the explosives;

(c) the NEQ of the substance and the number of articles or units (e.g. boosters, plugs, cartridges, etc.) contained within, and

(d) any additional markings as required by Section 3.2.4.

(2) The requirements of (1) do not apply to liners, wrappers, bags and other containment devices, which are not intended to be separated from the packaging bearing the required markings.

(3) Section 3.2.2(1) does not apply to Commonwealth explosives procured locally before 2001 or to Commonwealth explosives procured overseas before 2005.

3.2.3 Marking of Wrappings

Every wrapping enclosing a cartridge of blasting explosive, or boosters of UN 0042 or UN 0283 or charge for blasting or similar purpose, must be clearly marked on the outside surface with the word ‘EXPLOSIVE’ in upper case, and where there is sufficient space available, the authorised name.

3.2.4 Additional Markings for Certain Packagings

(1) Every single or outer packaging containing explosives of Division 1.1 or 1.5 must be marked with the date of manufacture or the date of issue from the factory of manufacture.

(2) The casing of every detonator of UN Numbers 0029, 0030, 0255, 0267, 0360, 0361, 0455, 0456 and 0500 must be marked with the word ‘DETONATOR’.

(3) The casing of every detonator not specified in Section 3.2.4(2) must be marked with the words ‘BLASTING CAP’.

(4) The casing of every detonator and every detonating relay must be marked with the word ‘EXPLOSIVE’, together with the word ‘DANGEROUS’ and/or the word ‘DANGER’.

(5) The words required by Sections 3.2.4(2), 3.2.4(3) and 3.2.4(4) must be embossed or otherwise indelibly marked on the casing in upper case letters and be clearly legible.

(6) Section 3.2.4 does not apply to Commonwealth explosives procured locally before 2005 or to Commonwealth explosives procured from overseas.

3.2.5 Location, Form and Quality of Markings

(1) The markings required by Sections 3.2.1, 3.2.2, 3.2.3 and 3.2.4, must be marked on the packaging as follows:

(a) markings on single packagings and on the outer packaging of a combination packaging must be located on the packaging so as to be normally visible when the package is stacked with other packages of the same kind;

(b) Class and Subsidiary Risk labels and UN Numbers must be located in close proximity to each other and on:

(i) the same face of the packaging; or

(ii) where compliance with (i) is not possible, on immediately adjacent faces of the packaging, provided that the Class and Subsidiary Risk labels are on the same face;

(c) lettering (other than on a Class label or Subsidiary Risk label) must be of a style and size and be set out so that the markings are legible and clearly distinguishable from any other markings on the packaging;

(d) letters and numerals of Proper Shipping Names and UN Numbers must be of a height not less than that specified in Table 3.1;

(e) Class labels and Subsidiary Risk labels must comply with Section 3.6 and be of a size not less than that specified in Table 3.1, according to the packaging to which they are attached or applied;

(f) the surface immediately surrounding and within 5mm of every Class label and Subsidiary Risk label on a packaging must be of a colour contrasting with the background colour or colours of the label; and

(g) labels required by other regulations are permitted in addition to labels required by this Code, provided that they cannot be confused with or conflict with any label prescribed by this Code.

(2) Markings required by Sections 3.2.1, 3.2.2, 3.2.3 and 3.2.4; and, the means of applying or affixing them to packaging must be capable of passing the following test:

(a) not less than ten samples of the markings shall be applied or affixed to one or more of the packagings using the intended method of application or attachment;

(b) the packagings must be immersed in water at a temperature of 25° C ± 2° C for a continuous period of 4 hours;

(c) the packagings shall be removed from the water and dried; and

(d) the markings and means of applying or affixing them shall be deemed to pass the test if:

(i) each of the markings on the packagings remained completely affixed;

(ii) the details on the labels are clearly legible; and

(iii) there has been no appreciable change in the colour of the Class labels and Subsidiary Risk labels.

TABLE 3.1

Size of Labels, and Height of Letters and Numerals on Packagings

Quantity of Explosives in the Package (kg)	Minimum Size of Class Labels and Subsidiary Risk Labels (mm)	Minimum Height of Letters and Numerals of UN Numbers, Proper Shipping Names and the Word 'EXPLOSIVE' (mm)
Not more than 0.5	15 x 15	2.5
More than 0.5 but not more than 5	20 x 20	3
More than 5	100 x 100	10

Note 1: *Where the packaging dimensions are such that these label sizes do not fit, the labels should be as large as possible.*

Note 2: *There may be additional requirements for air transport, refer to the ICAO TI or IATA DGR.*

3.2.6 Marking of Unit Loads and Carry Boxes

(1) A unit load or carry box containing explosives must be marked with the Class 1 label and the Subsidiary Risk label or labels (if any) appropriate to the explosives within the unit load or carry box. If the Class label does not include the word "EXPLOSIVE" in upper case, this shall be applied.

(2) Section 3.2.6(1) shall not apply to unit loads where:

(a) each and every packaging in the unit load is marked in accordance with Section 3.2.1; and

(b) on each side of the unit load the Class and any Subsidiary Risk labels of at least one outer packaging must be clearly visible and not obscured. As far as practicable, packagings should be so arranged that on each side of the unit load several such labels are visible.

(3) The Class labels and Subsidiary Risk labels required by Section 3.2.6(1) must comply with Section 3.6 and be not less than 100mm square. The surface immediately surrounding and within 5mm of every Class label and Subsidiary Risk label must be of a colour contrasting with the background colour or colours of the label.

(4) Labels required by Section 3.2.6 must be located above any lifting points for forklift trucks on a unit load.

3.2.7 Marking of IBCs

(1) Except as provided in Section 3.2.7(2), every IBC must be marked with not less than two Emergency Information Panels complying with Section 3.7. A panel must be located on each of the two sides either above any lifting points for forklift tines, or below the lifting points where the IBC is designed for top lifting.

(2) IBCs used to transport explosives may be marked as a single package in accordance with Section 3.2.1, in lieu of the requirements of Section 3.2.7(1), provided that:

(a) the IBCs are marked in accordance with Section 3.2.1 and packed in a country outside Australia;

(b) the IBCs are only transported within a closed sealed freight container (which is marked in accordance with Section 3.3) as a full freight container load;

(c) all of the explosives in the freight container have the same UN Number;

(d) the IBCs are not removed from the freight container except at the point of end use of the explosives; and

(e) the IBCs are marked with the specialist advice required by Section 3.7.2(f).

3.2.8 Removal of Markings

The markings required by Section 3.2 must be removed or obliterated from used unit loads, IBCs and explosives packagings, both inner and outer, which are empty and cleaned of explosives.

Note: *The purpose of this clause is to prevent labelled explosives packagings being used for other purposes and to avoid misidentification and causing unnecessary alarm.*

3.3 Marking of Freight Containers Used to Transport Explosives

(1) Except where the requirements of Section 3.3(4) apply, every freight container containing explosives in a quantity which qualifies for inclusion in Risk Category 2 or 3 (see Table 2.1) must be marked with the Class and any Subsidiary Risk Placards (if any) appropriate to the explosives in the container.

(2) Where more than one Division of Class 1 explosives is transported the load placard must be determined in accordance with Section 7.3.2 of this Code.

(3) The Class Placards and Subsidiary Risk Placards indicating the highest risk normally only need to be affixed on transport units carrying substances and articles of more than one Division in Class 1. However, where containers are packed in Australia the requirements of Section 7.3.2 of this Code apply in this respect. The placards required by Section 3.3(1) must:

(a) comply with Section 3.6;

(b) be not less than 250mm square; and

(c) be firmly affixed to the container on all four sides.

(4) The surface immediately surrounding and within 20mm of every Class Placard and Subsidiary Risk Placard must be of a colour contrasting with the background colour or colours of the Placard.

(5) Every freight container used to transport explosives, of other than Division 1.4, in a quantity not less than 1000kg or 20000 items (for detonators), must be marked on each of its longer sides, with Emergency Information Panels in accordance with Section 3.7.

3.4 Marking of Road Vehicles

3.4.1 Marking of Road Vehicles for Transporting Explosives

(1) Except where the requirements of Section 3.4.1(3) apply, every road vehicle which has aboard explosives in a quantity sufficient to qualify for inclusion in Risk Category 2 or 3 (see Table 2.1) must be marked:

(a) at the front and the rear with reflective Class Placard or Placards and Subsidiary Risk Placard or Placards (if any) appropriate to the explosives aboard; and

(b) at the front and rear and on both sides, with a reflective placard displaying the word 'EXPLOSIVES' in red, upper case, not less than 150mm high on a white background.

(2) The Class and any Subsidiary Risk Placards required by Section 3.4.1 must:

(a) comply with Section 3.6;

(b) be not less than 250mm square;

(c) be firmly affixed to the vehicle; and

(d) have a surface immediately surrounding and within 20mm of every Class Placard and Subsidiary Risk Placard of a colour contrasting with the background colour or colours of the Placard.

(3) Every road vehicle used to transport explosives, of other than Division 1.4, in a quantity not less than 1000kg or 20000 items (for detonators), must be marked:

(a) at the front with reflective Class Placard or Placards and Subsidiary Risk Placard or Placards (if any) appropriate to the explosives aboard;

(b) on the front, rear and each side with a reflective placard displaying the word 'EXPLOSIVES' in red, uppercase, not less than 150mm high on a white background; and

(c) on each side and the rear with Emergency Information Panels in accordance with Section 3.4.1(4).

(4) The following requirements apply to the Emergency Information Panels required to be displayed on road vehicles by Section 3.4.1(3):

(a) each Emergency Information Panel and the means of attaching it must comply with Section 3.7; and

(b) where the road vehicle is carrying one or more freight containers or IBCs which are marked with Emergency Information Panels in accordance with this Chapter, no further panels are required at the sides and/or rear of the vehicle provided the panels on the containers are fully exposed to view.

3.4.2 Marking of Combination Road Vehicles

If a combination road vehicle is transporting a load of explosives, required to be marked in accordance with Section 3.4.1, the markings required must be fixed:

(a) to the front and rear of the combination; and

(b) to each side of each trailer or rigid vehicle that forms part of the combination and on which a load of explosives required to be marked is being carried.

3.4.3 Removal of Markings

The markings required by Section 3.4 must be removed, covered or otherwise effectively obscured when the vehicle is not transporting explosives.

3.5 Marking of Rail Vehicles

3.5.1 Marking of Rail Wagons for Transporting Explosives

(1) Except where the requirements of Section 3.5.1(4) apply, every rail wagon which has aboard explosives in a quantity sufficient for inclusion in Risk Category 2 or 3, other than in freight containers, must be marked with the appropriate Class labels or Placards and Subsidiary Risk labels or Placards (if any).

(2) The Class and Subsidiary Risk labels or Placards required by Section 3.5.1(1), must:

(a) comply with Section 3.6; and

(b) be firmly affixed to each side of the vehicle.

(3) The surface of the rail wagon immediately behind the Class and Subsidiary Risk labels or Placards required by Section 3.5.1(1) must be of a contrasting colour to the colour of the label or placard.

(4) Every rail wagon used to transport explosives, of other than Division 1.4, in a quantity not less than 1000kg or 20000 items (for detonators), must be marked on each side with Emergency Information Panels in accordance with Section 3.7.

(5) Where a rail wagon transports one or more freight containers that are marked in accordance with Section 3.3, any placard or marking required by this Section 3.5.1 that is fully exposed to view on the container need not be duplicated on that side of the wagon.

3.5.2 Removal of Markings

The markings required by Section 3.5 must be removed or obliterated when the wagon is not transporting explosives.

3.6 Requirements for Class and Subsidiary Risk Labels and Placards

(1) Labels must be in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 100mm by 100mm, except as provided in 5.2.2.2.1.2 and 5.2.2.2.1.9 of the ADG Code. They must have a line 5mm inside the edge and running parallel with it. In the upper half of the label, the line must have the same colour as the symbol and, in the lower half, it must have the same colour as the figure in the bottom corner. Labels which are not displayed on a background of contrasting colour must have either a dotted or solid outer boundary line.

(2) Subsidiary Risk labels must comply with the same size and physical arrangement as described in Section 3.6(1). Examples are provided in Figures 3.1 to 3.8 of this Code.

(3) Class labels and placards and Subsidiary Risk labels and placards on freight containers, rail wagons and road vehicles must be in accordance with Chapter 3 of this Code and must:

(a) Be not less than 250mm by 250mm, with a line of the same colour as specified in (1) above, running 12.5mm inside the edge and parallel with it; and

(b) Correspond to the label for the Class of the dangerous goods in question as shown in Figures 3.1 to 3.8, with respect to colour and symbol; and

(c) Display the number of the Class or Division (and for goods of Class 1, the Compatibility Group letter) of the dangerous goods in question as provided in Figures 3.1 to 3.8 of this Code.

FIGURE 3.1

Form and Colouring of Class 1 Labels

CLASS 1 Explosive substances or articles

Background: orange

Text, lines and numerals: black

Figure '1' in bottom corner

(Model No 1)

Division 1.1, 1.2 and 1.3
(also used for subsidiary risk 'EXPLOSIVE')

Symbol (exploding bomb): black

** Place for division and compatibility group

- to be left blank if EXPLOSIVE is the subsidiary risk

(Model No 1.4)
Division 1.4

(Model No 1.5)
Division 1.5

(Model No 1.6)
Division 1.6

Division numerals must be about 30mm in height and about 5mm thick
(for a label measuring 100mm x 100mm square)

* Place for compatibility group

NOTES TO FIGURE 3.1.

(1) *Lettering and symbol (if any), numerals and lines must be black on a background of the colour orange (refer Note 3).*

(2) *The surface of each Class and Subsidiary Risk label must have a line of the same colour as the symbol inside the edge and running parallel to it. This line must be 5mm inside the edge for a label of dimensions of 100mm x 100mm. The distance of the line from the edge must be reduced or increased in proportion to the size of the label. Labels must be in the form of a square set at an angle of approximately 45° (diamond-shaped).*

(3) *The colour orange specified in Figure 3.1 must, after marking on the package, unit load, carry box, freight container or vehicle, match the sample of one of the following reference colours:*

(a) X15 (Orange) from AS 2700; or

(b) Pantone 151 from Pantone Matching System published by Pantone Inc., USA.

(4) *The Classification Code for explosives of Division 1.1, 1.2 or 1.3 must appear in the space marked '**'. Where the Class label or Placard is applied to a unit load, freight container or vehicle transporting explosives of more than one Division or Compatibility Group, the Classification Code marked on the label or placard must be that determined for the whole load in accordance with Section 7.3.2.*

(5) *The Compatibility Group for explosives of Division 1.4, must appear in the space marked '*'.*

(6) *Letters and numerals on Class labels and Subsidiary Risk labels must comply with AS 1744.*

(7) *In the UN Model Regulations, the IMDG Code, ICAO TI, IATA DGR, text indicating the nature of the risk, while permitted, is not included in the illustrated labels other than those for material of Class 7. Often therefore, labels on imported packages and IBCs, or used as placards on imported freight containers or portable tanks, will not incorporate text indicating the nature of the risk, or may incorporate this text in another language. Such labels are acceptable for continued transport within Australia. Text is more frequently omitted where the UN Number is incorporated in a label used as a placard.*

(8) *Notwithstanding Note 7, the continuing display on labels of text indicating the nature of the risk e.g. EXPLOSIVE, is strongly encouraged for use within Australia, particularly when used as placards on vehicles and freight containers, to assist with hazard recognition in an emergency.*

FIGURE 3.2

Form and Colouring of Class 3 Labels and Subsidiary Risk

CLASS 3 Flammable liquids

(Model No. 3)

Background: red

Symbol (flame): black or white

Lines and text: same as symbol

Figure '3' in bottom corner

FIGURE 3.3

Form and Colouring of Class 4 Labels and Subsidiary Risk

CLASS 4

Figure '4' in bottom corner

(Model No. 4.1)
Division 4.1
Flammable Solids
Background: white with seven vertical red stripes,
Symbol (flame), lines and text: black

(Model No. 4.2)
Division 4.2
Substances liable to spontaneous combustion
Background: upper half white, lower half red
Symbol (flame), lines and text: black

(Model No. 4.3)
Division 4.3
Substances which, in contact with water, emit flammable gases
Background: blue
Symbol (flame): black or white
Lines and text: same as symbol

FIGURE 3.4

Form and Colouring of Class 5 Labels and Subsidiary Risk

CLASS 5

Background: yellow
Symbol (flame over circle), lines and text: black

Background: upper half red; lower half yellow
Symbol (flame) and lines: black or white as illustrated
Text:black

(Model No. 5.1)
Division 5.1
Oxidising substances*
Figure '5.1'
in bottom corner

(Model No. 5.2A)

(Model No 5.2B) †
Division 5.2
Organic peroxides
Figure '5.2' in bottom corner

* *Hazard description on No. 5.1 label (Division 5.1) may alternatively read 'OXIDISING AGENT'*

† *The new alternative labels for Division 5.2 (Model No. 5.2B) should be phased in where possible during the currency of this edition of this Code. Use of No. 5.2A label will not be permissible in Australia or internationally from 1 January 2011.*
(see Special Provision 323 in Appendix 3 of this Code)

FIGURE 3.5

Form and Colouring of Class 6 Label and Subsidiary Risk

CLASS 6

Background: white
Lines and text: black
Figure '6' in bottom corner

(Model No. 6.1)
Division 6.1
Toxic substances
Symbol (skull and crossbones): black

(Model No. 6.2)
Division 6.2
Infectious substances*
Symbol (three crescents superimposed on a circle):
black

* *Model No. 6.2 label (Division 6.2) may also include the following text:*
"In the case of damage or leakage, immediately notify Public Health Authority".

FIGURE 3.6

Form and Colouring of Class 8 Label and Subsidiary Risk

CLASS 8 Corrosive substances Symbol (liquids spilling from two glass vessels and attacking a hand* and metal): black Text: white Background: upper half white: lower half black with white border Figure 8 in bottom corner	 **(Model No. 8)**

* *The skin of the hand on the Class 8 label (Model No 8) may be white or shaded grey.*

FIGURE 3.7

Form and Colouring of Class 9 Label and Subsidiary Risk

CLASS 9 Miscellaneous dangerous substances and articles Symbol (seven vertical stripes in upper half) and text: black Background: white Figure ‘9’ underlined in bottom corner	 **(Model No. 9)**

FIGURE 3.8

Environmentally Hazardous Substances Marking

Environmentally hazardous substance mark Symbols: fish in black outline and tree in black infill Background: white or suitable contrasting background ***NOTE:*** *The Environmentally hazardous substances mark is principally used as a Placard on transport units transporting substances classified as environmentally hazardous.*	

3.7 Requirements for Emergency Information Panels

3.7.1 Form and Dimensions

(1) Emergency Information Panels must be of the form shown in Figure 3.9.

(2) Except as provided in Section 3.7.1(3) and Section 3.7.1(4), Emergency Information Panels must be of the dimensions shown in Figure 3.9.

(3) Emergency Information Panels for IBCs having a capacity of not more than 1500 L may have dimensions not less than half those shown in Figure 3.9.

(4) The Competent Authority may approve the use of Panels having dimensions not less than half those shown in Figure 3.9* where:

(a) an IBC has a capacity of more than 1500 L but not more than 3000 L; and

(b) the Competent Authority is satisfied that the use of Emergency Information Panels of the dimensions specified in Figure 3.9 is not practicable.

***** *An Emergency Information Panel printed on an A3 sized sheet with minimum printing margins all around is deemed to meet this minimum size requirement.*

3.7.2 Particulars to be Displayed on Panels

The following particulars must be shown on the panel in the spaces marked (a) – (f) in Figure 3.9:

(a) Space (a) – the proper shipping name, or the word 'EXPLOSIVES';

(b) Space (b) – the UN Number specified in Appendix 2, or blank if the word EXPLOSIVES is used in Space (a);

(c) Space (c) – the *Hazchem Code*, assigned to the load in accordance with Appendix 7;

(d) Space (d) –

(i) the expression "000, POLICE OR FIRE BRIGADE"; or

(ii) if the vehicle or freight container is used in an area where there is no "000" emergency telephone service and the Competent Authority approves – the telephone number of the Police or Fire Brigade in the area followed by the expression 'POLICE' or 'FIRE BRIGADE', as appropriate to the telephone number;

(e) Space (e) – the Class label and Subsidiary Risk label (if any) determined for the load in accordance with Section 7.3.2; and

(f) Space (f) – the name of an organisation in Australia, and the number of a telephone service, (preceded by the appropriate STD Code), as required to be provided in accordance with Sections 8.4.6 and 8.6.3.

3.7.3 Display of Information

(1) The arrangement of information shown on an Emergency Information Panel, such as the size of Class and Subsidiary Risk labels and the height of letters and numerals must be in accordance with Figure 3.9.

(2) All letters and numerals used on an Emergency Information Panel (other than on Class labels and Subsidiary Risk labels) must be of the form and proportion as depicted in Figure 3.9(b).

(3) Class and Subsidiary Risk labels and placards must comply with Section 3.6.

(4) Emergency Information Panels must be durable and weather resistant.

3.7.4 Method of Attachment of Emergency Information Panel

The following requirements apply in regard to the attachment of Emergency Information Panels (EIP) to vehicles and containers:

(a) each EIP must be securely attached in a substantially vertical plane either directly or by means of a frame;

(b) where an EIP is attached by means of a frame, the EIP Panel must bear information on one side only unless adequate steps are taken to prevent dislodgment of the EIP and;

(c) the EIP at each side of a vehicle (other than on a bulk container) must be located as close as practicable to the front of the bulk container being carried, or the front of the load carrying area of the vehicle. Each EIP must have its lowest edge at least 450mm above the ground.

3.7.5 Dividing an Emergency Information Panel

If, because of an obstruction on the vehicle or container, it is not reasonably practicable to mount an Emergency Information Panel as a whole, the panel may be divided into two parts and mounted on either side of the obstruction.

3.8 Empty Uncleaned Packagings, Transport Units, Bulk Containers and Tanks

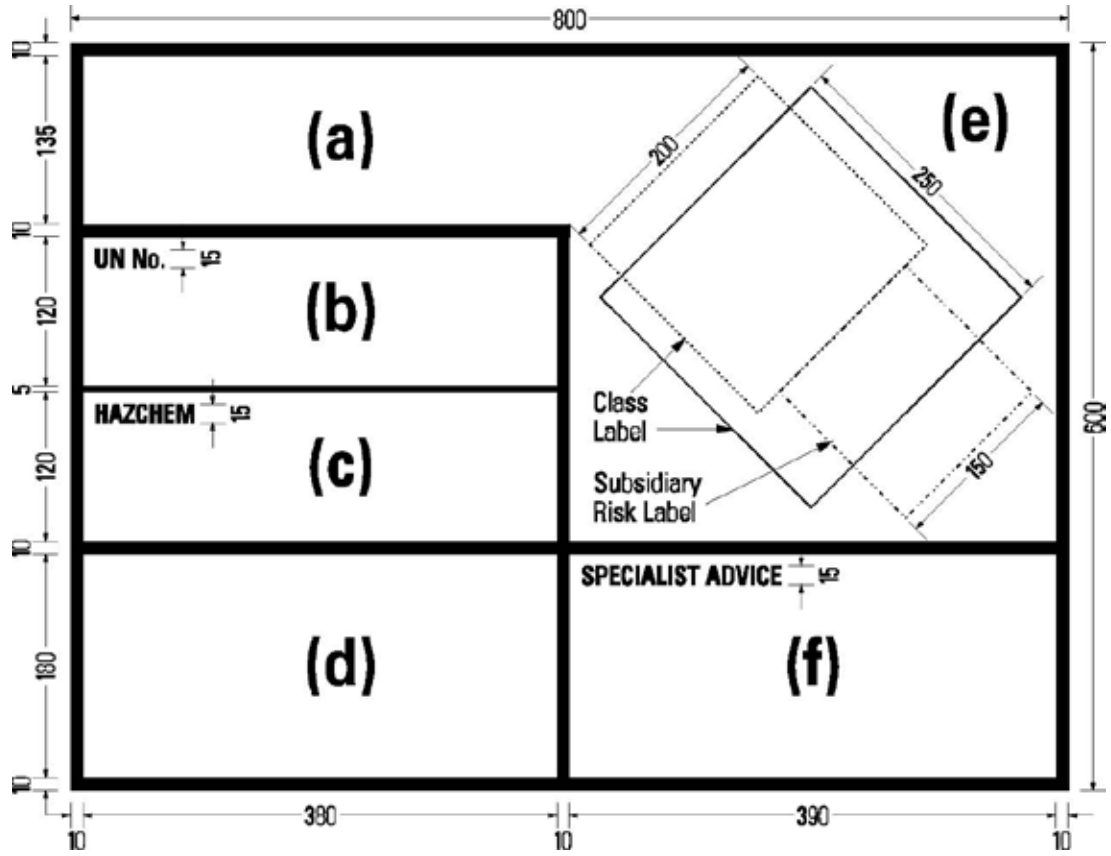
(1) A packaging, including an IBC, which previously contained explosives, must be identified, marked, labelled and placarded as required for those explosives unless steps such as cleaning, purging of vapours or refilling with a non-dangerous substance are taken to nullify any hazard.

(2) Empty transport units still containing residues of explosives, or loaded with empty uncleaned packages or empty uncleaned bulk containers, must comply with the marking provisions applicable to the explosives last contained in the unit, packagings or bulk container.

FIGURE 3.9

Format of Emergency Information Panel

(a) blank *all dimensions in millimetres*



(b) completed example

4

CHAPTER 4: DOCUMENTATION

4.1 General

Except as otherwise provided in this Chapter each person who offers explosives for transport by road and/or rail must describe the explosives on transport documentation in the manner prescribed below.

4.2 Exemptions

(1) Chapter 4 applies to any quantity of explosives transported by road or rail, except where the load of explosives on the vehicle complies with all of the following requirements:

(a) the quantity of explosives does not exceed Category 1 quantities;

(b) the explosives are not being transported by the person in the course of a business of transporting explosives by road or rail; and

(c) the explosives are being transported by the person on a passenger vehicle (refer also to Section 6.4.1(a)).

(2) Any exemption granted by the Competent Authority relating to the transportation must be carried as part of the transport documentation.

4.3 Form of Transport Documentation

(1) A transport document may be in any form, provided it is in hardcopy and contains all of the information required by this Code.

(2) If explosives and other goods are transported by road and rail, these may be included on the same documentation, but the explosives must be entered first, or otherwise be emphasised.

(3) A transport document must be completed and accompany each consignment of explosives. An aggregated transport document may be used for multiple consignments from one consignor, which are carried on the same vehicle.

(4) The form shown in Figure 4.1 at the end of this Chapter is an example of a transport document.

(5) A transport document may consist of more than one page, provided pages are consecutively numbered. An example of a continuation document is shown in Figure 4.1 at the end of this Chapter.

(6) The information on a transport document must be in English, easy to identify, legible and durable.

(7) Transport documentation must be carried on a vehicle carrying explosives in accordance with Section 8.2.8.

4.4 Details of Consignor, Consignee, Date and Contact Numbers

(1) The name and address of the consignor and the consignee of the explosives must be included on the transport document. The date the transport document or an electronic copy of it was prepared must be included.

(2) For the purpose of this Code a telephone number of the consignor is also to be provided. Wherever possible the telephone number of the consignor stated on the transport document, should be a number at which the consignor, or a person acting on behalf of the consignor, is accessible 24 hours a day to answer questions relating to the goods consigned.

4.5 Special Information Required in Respect of Explosives

The following information must be included for each consignment of explosives, as applicable:

(1) When explosive substances or articles are packaged "as approved by the Competent Authority" in accordance with Packing Instruction 101, the transport document must contain the statement "Packaging approved by the Competent Authority of **".

(2) When there are some hazards which are not indicated by the Hazard Division and Compatibility Group of a substance, the consignor must provide an indication of any such hazards on the transport document. For example, "contents are toxic; avoid inhaling or ingesting particles or dust."

** *Insert details of the relevant Competent Authority having jurisdiction.*

4.6 General Information Required on the Transport Document

The following information is to be provided on the transport documents in addition to the details in Sections 4.4 and 4.5 of this Chapter.

4.6.1 Dangerous Goods Description

The transport document must contain the following information for each dangerous goods offered for transport:

(1) The UN Number preceded by the letters "UN";

(2) The Proper Shipping Name, as listed in Appendix 2. It must also include the technical name enclosed in parenthesis, where Special Provision 274 requires it. However, for Class 1 explosives the authorised name of the explosive must also be included;

(3) The Class, and Division of the goods, and for Class 1, the Compatibility Group letter. The words "Class" or "Division" may be included, preceding the primary Hazard Class or Division numbers;

(4) Each Subsidiary Risk (if any), Class or Division number(s) corresponding to the Subsidiary Risk label(s) required to be applied, when assigned, must be entered following the primary hazard Class or Division and must be enclosed in parenthesis. The words "Class" or "Division" may be included preceding the Subsidiary Risk Class or Division numbers;

(5) Where assigned, the packing group for the substance or article which may be preceded by "PG" (e.g."PG II").

4.6.2 Sequence of the Dangerous Goods Description

The five elements of the explosives description specified in Section 4.6.1 of this Chapter must be shown in the order listed (i.e. 1, 2, 3, 4, and 5) with no information interspersed, except as provided in this Code. Unless permitted or required by this Code, additional information must be placed after the explosives description.

4.6.3 Quantity and Packaging

The total quantity of explosives covered by each description in Section 4.6.1 bearing a different Proper Shipping Name, UN Number or Packing Group must be included, except for empty uncleaned packagings, see Section 4.7. For the purpose of this Code the following is required:

(a) the gross and net mass of each consignment; and

(b) the aggregate NEQ of each type of explosive; and

(c) if the explosives are packaged:

  (i) a description of each type of package to be transported; and

  (ii) the number of packages of each type to be transported; and

  (iii) the weight per package (gross mass and NEQ); and

(d) if the explosives are carried in bulk:

  (i) a description of the type of bulk container; and

  (ii) the number of bulk containers of each type to be transported; and

  (iii) for bulk containers other than freight containers, the following statement must be included on the transport document: “Bulk container BK2 approved by the Competent Authority of **”.

** *Insert details of the relevant Competent Authority having jurisdiction.*

4.7 Empty Uncleaned Packagings, Bulk Containers and Tanks

(1) A packaging, including an IBC, which previously contained explosives, must be identified, as required for those explosives unless steps such as cleaning, purging of vapours or refilling with a non-dangerous substance are taken to nullify any hazard.

(2) Empty transport units still containing residues of explosives, or loaded with empty uncleaned packages or empty uncleaned bulk containers, must comply with the provisions applicable to the goods last contained in the unit, packagings or bulk container.

(3) Empty means of containment (including packagings, IBCs, bulk containers, portable tanks, road tank vehicles and railway tank wagons) which contain the residue of explosives subject to this Code must be described as such by, for example, placing the words "**EMPTY UNCLEANED**" or "**RESIDUE LAST CONTAINED**" before or after the proper shipping name.

4.8 Additional Information for Rail Documentation

(1) If explosives are transported by rail, the following information must also be included in the transport documentation:

(a) the rail station or depot from which the explosives are to be dispatched; and

(b) the rail station or depot to which the explosives are to be consigned.

(2) It is sufficient compliance with Section 4.6.3(b) and Section 4.8(1) if the information required is set out in the transport documentation, which could include a 'rail consignment note' or 'train manifest'.

4.9 Electronic Documentation

(1) The contents of transport documentation may be transmitted to the prime contractor, driver or others by electronic data interchange, but documentation must be carried in the vehicle in hard copy form.

(2) If the transport documentation is presented electronically, the signature(s) may be replaced by the name(s) (in upper case) of the person authorised to sign.

Figure 4.1

MULTIMODAL DANGEROUS GOODS FORM

1. Shipper/Consignor/Sender	2. Transport document number 3. Page 1 of ..... pages 4. Shipper's reference 5. Freight Forwarder's reference
6. Consignee	7. Carrier (to be completed by the carrier)
	SHIPPER'S DECLARATION I hereby declare that the contents of this consignment are fully and accurately described below by the proper shipping name, and are classified, packaged, marked and labelled /placecarded and are in all respects in proper condition for transport according to the applicable international and national government regulations.
8. *This shipment is within the limitations prescribed for (Delete non-applicable)* PASSENGER AND CARGO AIRCRAFT / CARGO AIRCRAFT ONLY	9. Additional handling information
10. Vessel.flight No. and date / 11. Port/place of loading	
12. Port/place of discharge / 13. Destination	

14. Shipping marks	*Number and kind of packages; description of goods	Gross mass (kg)	Net mass	Cube (m^3)

15. Container identification No./ vehicle registration No.	16. Seal number (a)	17. Container/vehicle size & type	18. Tare (kg)	19. Total gross mass (including tare) (kg)

CONTAINER/VEHICLE PACKING CERTIFICATE I hereby declare that the goods described above have been packed/loaded into the container/vehicle identified above in accordance with the applicable provisions** MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING	21. RECEIVING ORGANISATION RECEIPT Received the above number of packages/containers/trailers in apparent good order and condition unless stated here on: RECEIVING ORGANISATION REMARKS:	
20. Name of company	Haulier's name	22. Name of company (OF SHIPPER PREPARING THIS NOTE)
Name / Status of declarant	Vehicle reg. no.	Name / Status of declarant
Place and date	Signature and date	Place and date
Signature of declarant	DRIVER'S SIGNATURE	Signature of declarant

*FOR DANGEROUS GOODS you must specify: UN No. proper shipping name, hazard class, packing group (where assigned) and any other element of information required under applicable national and international regulations

**See 5.4.2.1 of the UN Model Regulations

Figure 4.1

MULTIMODAL DANGEROUS GOODS FORM — Continuation Sheet

1. Shipper/Consignor/Sender	2. Transport document number	
	3. Page 1 of ..... pages	4. Shipper's reference
		5. Freight Forwarder's reference

14. Shipping marks	* Number and kind of packages; description of goods	Gross mass (kg)	Net mass	Cube (m^3)

*FOR DANGEROUS GOODS you must specify: proper shipping name, hazard class UN No, packing group (where assigned) and any other element of information required under applicable national and international regulations

5.1

CHAPTER 5
PART 1: PACKAGING, IBCs AND UNIT LOADS FOR EXPLOSIVES

5.1 General Provisions for Packages, IBCs and Large Packages

(1) Because of the special nature of explosives and the varying degree of hazard they present according to the manner in which they are packed, goods subject to this Code are to be packed in accordance with the packing instructions stipulated in Appendix 2. The requirements in respect of these packages are provided in Appendix 4.1 of Chapter 9. In addition to the requirements below and unless specific provision to the contrary is made, the packagings used for explosives must comply with at least the requirements for solids or liquids (as appropriate) of Packing Group II (medium danger).

(2) Except as provided in Section 5.2.5(19) below, packagings used for explosives must meet the construction and performance requirements of Chapter 6 of the ADG Code noting the general requirements of Chapter 4 of the ADG Code, in that:

(a) they must be packed in good quality packagings, including IBCs and large packagings, which must be strong enough to withstand the shocks and loadings normally encountered during transport, including trans-shipment between cargo transport units, and between cargo transport units and warehouses, as well as any removal from a pallet or overpack for subsequent manual or mechanical handling;

(b) packagings, including IBCs and large packagings, must be constructed and closed so as to prevent any loss of contents when prepared for transport, which may be caused under normal conditions of transport, by vibration, or by changes in temperature, humidity or pressure; and

(c) packagings, including IBCs and large packagings, must be closed in accordance with the information provided by the manufacturer. No dangerous residue must adhere to the outside of packages, IBCs and large packagings during transport.

(3) These provisions apply, as appropriate, to new, reused, reconditioned or remanufactured packagings, and to new, reused, repaired or remanufactured IBCs, and to new or reused large packagings.

(4) Parts of packagings, including IBCs and large packagings, which are in direct contact with explosives subject to this Code:

(a) must not be affected or significantly weakened by those explosives; and
(b) must not cause a dangerous effect, such as catalysing a reaction or reacting with the explosives.

Where necessary, they must be provided with a suitable inner coating or treatment.

(5) Unless provided elsewhere in this Code, each packaging, including IBCs and large packagings, except inner packagings, must conform to a design type successfully tested in accordance with the provisions of Chapters 6.1.5, 6.3.2, 6.5.6, 6.6.5, of the ADG Code. However, IBCs manufactured before 1 January 2011 and conforming to a design type which has not passed the vibration test of 6.5.6.13 of the ADG Code may still be used.

(6) When filling packagings, including IBCs and large packagings, with liquids, (see *Note 1*) sufficient ullage must be left to ensure that neither leakage nor permanent distortion of the packaging occurs as a result of an expansion of the liquid caused by temperatures likely to occur during transport. Unless specific provisions are prescribed, liquids must not completely fill a packaging at a temperature of 55°C. However, sufficient ullage must be left in an IBC to ensure that at the mean bulk temperature of 50°C it is not filled to more than 98% of its water capacity.

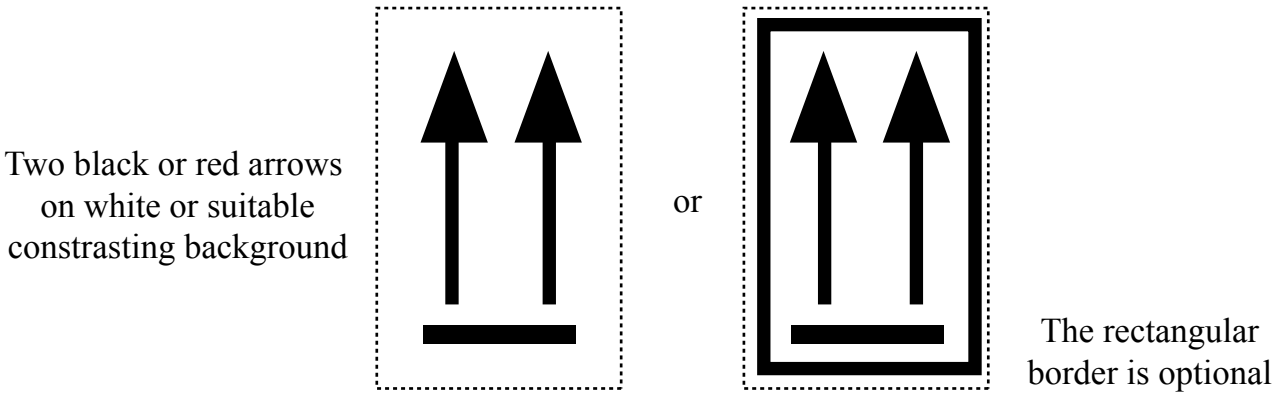
Note 1: *For sea transport, additional guidance is provided in the Notes, Section 4.1.1.4 of the IMDG Code.*

Note 2: *For air transport, packagings intended to contain liquids must also be capable of withstanding a pressure differential without leakage as specified in the ICAOTI and IATA DGR.*

(7) Inner packagings must be packed in an outer packaging in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the outer packaging. Inner packagings containing liquids must be packaged with their closures upward and placed within outer packagings consistent with the orientation markings of the type shown in Figure 5.1. Inner packagings that are liable to break or be punctured easily, such as those made of glass, porcelain or stoneware or of certain plastics materials, etc., must be secured in outer packagings with suitable cushioning material. Any leakage of the contents must not substantially impair the protective properties of the cushioning material or of the outer packaging.

FIGURE 5.1

Format of Orientation Marks



(8) Where an outer packaging of a combination packaging or a large packaging are to be tested and approved in accordance with Chapters 4 and 6 of the ADG Code, or has been successfully tested with different types of inner packagings, a variety of such different inner packagings may also be assembled in this outer packaging or large packaging. In addition, provided an equivalent level of performance is maintained, the following variations in inner packagings are allowed without further testing of the package:

(a) Inner packagings of equivalent or smaller size may be used provided:

(i) the inner packagings are of similar design to the tested inner packagings (such as shape - round, rectangular, etc.);

(ii) the material of construction of inner packagings (glass, plastics, metal, etc.) offers resistance to impact and stacking forces equal to or greater than that of the originally tested inner packaging;

(iii) the inner packagings have the same or smaller openings and the closure is of similar design (such as screw cap, friction lid, etc.);

(iv) sufficient additional cushioning material is used to take up void spaces and to prevent significant movement of the inner packagings; and

(v) inner packagings are oriented within the outer packaging in the same manner as in the tested package.

(b) A lesser number of the tested inner packagings or of the alternative types of inner packagings identified in (a) (i) above may be used, provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the inner packagings.

(9) Cushioning and absorbent material must be inert and suited to the nature of the contents.

(10) The nature and the thickness of the outer packagings must be such that friction during transport does not generate any heating likely to dangerously alter the chemical stability of the contents.

(11) The closures of packagings containing wetted or diluted substances must be such that the percentage of liquid (water, solvent or phlegmatiser) does not fall below the prescribed limits during transport.

(12) Where two or more closure systems are fitted in series on an IBC, that nearest to the substance being transported must be closed first.

(13) Where pressure may develop in a package by the emission of gas from the contents (as a result of temperature increase or other causes), the packaging or IBC may be fitted with a vent provided that the gas emitted will not cause danger on account of its toxicity, its flammability, the quantity released, etc.. A venting device must be fitted if dangerous overpressure may develop due to normal decomposition of substances. The vent must be so designed that, when the packaging or IBC is in the attitude in which it is intended to be transported, leakages of liquid and the penetration of foreign substances are prevented under normal conditions of transport.

(14) Liquids may only be filled into inner packagings which have an appropriate resistance to internal pressure that may be developed under normal conditions of transport.

(15) New, remanufactured or re-used packagings, including IBCs and large packagings, or reconditioned packagings and repaired or routinely maintained IBCs must be capable of passing the tests prescribed in Sections 6.1.5, 6.3.2, 6.5.6 and 6.6.5 of the ADG Code, as applicable. Before being filled and handed over for transport, every packaging, including IBCs and large packagings, must be inspected to ensure that it is free from corrosion, contamination or other damage and every IBC must be inspected with regard to the proper functioning of any service equipment. Any packaging which shows signs of reduced strength as compared with the approved design type must no longer be used or must be so reconditioned that it is able to withstand the design type tests. Any IBC which shows signs of reduced strength as compared with the tested design type must no longer be used or must be so repaired or routinely maintained that it is able to withstand the design type tests.

(16) Liquids must only be filled into packagings, including IBCs, which have an appropriate resistance to the internal pressure that may develop under normal conditions of transport. Packagings and IBCs marked with the hydraulic test pressure prescribed in the ADG Code must be filled only with a liquid having a vapour pressure:

(a) such that the total gauge pressure in the packaging or IBC (i.e. the vapour pressure of the filling substance plus the partial pressure of air or other inert gases, less 100 kPa) at 55°C, determined on the basis of a maximum degree of filling in accordance with Section 5.1(6) and a filling temperature of 15°C, will not exceed two thirds of the marked test pressure; or

(b) at 50°C, less than four sevenths of the sum of the marked test pressure plus 100 kPa; or

(c) at 55°C, less than two thirds of the sum of the marked test pressure plus 100 kPa.

IBCs intended for the transport of liquids must not be used to carry liquids having a vapour pressure of more than 110 kPa (1.1 bar) at 50°C or 130 kPa (1.3 bar) at 55°C.

Note 1: *As the vapour pressure of low-boiling-point liquids is usually high, the strength of receptacles for these liquids must be sufficient to withstand, with an ample factor of safety, the internal pressure likely to be generated.*

Note 2: *For sea and air transport, guidance is provided in the IMDG Code or ICAOTI and IATADGR.*

(17) Every packaging intended to contain liquids must successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level as required by the ADG Code:

(a) before it is first used for transport;

(b) after remanufacturing or reconditioning of any packaging, before it is re-used for transport.

For this test the packaging need not have its closures fitted. The inner receptacle of a composite packaging may be tested without the outer packaging, provided the test results are not affected. This test is not necessary for inner packagings of combination packagings or large packagings.

(18) Packagings, including IBCs, used for solids which may become liquid at temperatures likely to be encountered during transport must also be capable of containing the substance in the liquid state.

(19) Packagings, including IBCs, used for powdery or granular substances must be sift-proof or must be provided with a liner.

(20) For plastics drums and jerricans, rigid plastics IBCs and composite IBCs with plastics inner receptacles, the period of use permitted for the transport of explosives must be five years from the date of manufacture of the receptacles, except where a shorter period of use is prescribed because of the nature of the substance to be transported.

Note: *Variation of the prescribed period requires Competent Authority exemption.*

5.2 Specific Packaging Requirements under this Code.

5.2.1 Segregation within Packagings

Explosives must not be packaged together with explosives of a different Compatibility Group unless specifically authorised by the Competent Authority. Where explosives of different hazard divisions are packaged together, the resultant packaging must meet the requirements for packaging of the classification of the explosives within the package, determined in accordance with Table 7.1.

5.2.2 Transport in Less than Approved Package Sizes

Where explosives are sold to a person for that person's use in a trade, profession or business and are transported in less than the approved package size, the following requirements will apply:

(a) the packages must be marked to indicate their contents, be sufficiently strong and so closed to prevent spillage of loose explosive substances or articles from such packaging during transport; and

(b) the packages must be transported in a locked carry box in accordance with Section 6.2 of this Code.

5.2.3 Use of inner packaging as outer packagings

Where an inner packaging is designed to become an outer packaging for transport purposes at some point, then the inner packaging must comply with the requirements for an outer packaging.

5.2.4 Packaging QA Systems

The packagings must be manufactured and tested under a quality assurance programme which satisfies the Competent Authority in order to ensure that each manufactured packaging meets the provisions of this Code.

5.2.5 Special Packing Provisions for Explosives

(1) All packagings for Class 1 goods must be so designed and constructed that:

(a) they will protect the explosives, prevent them escaping and cause no increase in the risk of unintended ignition or initiation when subjected to normal conditions of transport, including foreseeable changes in temperature, humidity and pressure;

(b) the complete package can be handled safely in normal conditions of transport; and

(c) the packages will withstand any loading imposed on them by foreseeable stacking to which they will be subject during transport so that they do not add to the risk presented by the explosives, the containment function of the packagings is not harmed, and they are not distorted in a way or to an extent which will reduce their strength or cause instability of a stack.

Note: *For air transport additional requirements may apply. Refer to ICAOTI and IATA DGR.*

(2) All explosive substances and articles, as prepared for transport, must have been classified in accordance with the procedures detailed in Appendix 2.

(3) Explosives must be packed in accordance with the appropriate packing instruction shown in Columns 8 and 10 of the Numerical List in Appendix 2 and as detailed in Appendix 4.1 of this Code.

(4) Packagings, including IBCs and large packagings, should conform to the provisions of Chapters 6.1, 6.5 or 6.6 of the ADG Code, and meet the relevant test provisions. Packagings other than metal packagings meeting the test criteria of Packing Group I may be used.

Note: *To avoid unnecessary confinement, metal packagings of Packing Group I should not be used.*

(5) The closure device of packagings containing liquid explosives must ensure a double protection against leakage. As an example, refer to Section 5.1(12).

(6) The closure device of metal drums must include a suitable gasket; if a closure device includes a screw-thread, the ingress of explosive substances into the screw-thread must be prevented.

(7) Packagings for water-soluble substances must be water-resistant. Packagings for desensitised or phlegmatised substances must be closed to prevent changes in concentration during transport.

(8) When the packaging includes a double envelope filled with water which may freeze during transport, a sufficient quantity of an anti-freeze agent must be added to the water to prevent freezing. Anti-freeze that could create a fire hazard because of its inherent flammability must not be used.

(9) Nails, staples and other closure devices made of metal without protective covering must not penetrate to the inside of the outer packaging unless the inner packaging adequately protects the explosives against contact with the metal.

(10) Inner packagings, fittings and cushioning materials and the placing of explosive substances or articles in packages must be accomplished in a manner which prevents the explosive substances or articles from becoming loose in the outer packaging under normal conditions of transport. Metallic components of articles must be prevented from making contact with metal packagings. Articles containing explosive substances not enclosed in an outer casing must be separated from each other in order to prevent friction and impact. Padding, trays, partitioning in the inner or outer packaging, mouldings or receptacles may be used for this purpose.

(11) Packagings must be made of materials compatible with, and impermeable to, the explosives contained in the package, so that neither interaction between the explosives and the packaging materials, nor leakage, causes the explosive to become unsafe to transport, or the Hazard Division or Compatibility Group to change.

(12) The ingress of explosive substances into the recesses of seamed metal packagings must be prevented.

(13) Plastics packagings must not be liable to generate or accumulate sufficient static electricity so that a discharge could cause:

(a) the packaged explosive substances or articles to initiate, ignite or function; or

(b) discomfort to handlers that may cause them to drop or lose control of the package.

(14) Large and robust explosives articles, normally intended for military use, with or without their means of initiation, containing at least two effective protective features, may be transported unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems must be protected against stimuli encountered during normal conditions of transport.

A negative result in Test Series 4 of the UN Manual of Tests and Criteria on an unpackaged article indicates that the article can be considered for transport unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of transport.

Where such large explosive articles are, as part of their operational safety and suitability tests, subjected to test regimes that meet the provisions of this Code and such tests have been successfully undertaken, the Competent Authority may approve such articles to be transported under this Code.

(15) Explosive substances must not be packed in inner or outer packagings where the differences in internal and external pressures, due to thermal or other effects, could cause an explosion or rupture of the package.

(16) Whenever loose explosive substances or the explosive substance of an uncased or partly cased article may come into contact with the inner surface of metal packagings (1A2, 1B2, 4A, 4B and metal receptacles), the metal packaging must be provided with an inner liner or coating.

(17) If metal lined boxes are used for packing explosive substances, those boxes must be made in such a way that the explosive substances carried cannot lodge between the liner and the sides or the bottom of the box.

(18) Only hoops of non ferrous material must be used for wooden barrels intended for the transport of explosive substances where steel would be inappropriate.

(19) Packing Instruction 101 may be used for any explosive provided the package has been approved by a Competent Authority regardless of whether the packaging complies with the packing instruction assignment in Column 8 of Appendix 2.

5.3 Empty Uncleaned Packagings

Empty uncleaned packagings, including IBCs and large packagings, that have contained explosives must be treated in the same manner as is required by this Code for a filled packaging, unless adequate measures have been taken to nullify any hazard.

5.4 Use of Salvage Packagings

(1) Damaged, defective, leaking or non-conforming packages, or explosives that have spilled or leaked, may be transported in salvage packagings mentioned in the ADG Code. This does not prevent the use of a bigger size packaging of appropriate type and performance level under the conditions of Section 5.4(2).

(2) Appropriate measures must be taken to prevent excessive movement of the damaged or leaking packages within a salvage packaging. When the salvage packaging contains liquids, sufficient inert absorbent material must be added to eliminate the presence of free liquid.

(3) Appropriate measures must be taken to ensure there is no dangerous build-up of pressure.

Note: *Damaged, defective or leaking packages of Class 1 – Explosives in salvage packagings are forbidden from air transport.*

5.5 Unit Loading Methods for Explosives

(1) Unit loads must meet the following provisions:

(a) packages comprising the unit load must be suitable for safe handling individually;

(b) unit loads must be secured to the vehicle in such a manner to avoid damaging the individual packages comprising the unit load;

(c) where the unit loads of explosives are to be transported and stacked in stowage, each unit load must be suitably shaped to allow safe stacking and must be sufficiently strong so as to provide support to similar unit loads to be stacked on top of it;

(d) the unit load must be sufficiently strong to withstand repeated handling;

(e) the materials used to bond the unit load together must retain their efficiency when exposed to moisture, extremes of temperature and sunlight anticipated to be met during the course of transport; and

(f) the unit load must be suitable for lifting by fork lift truck or other suitable apparatus. Where they are not apparent, the safe lifting points must be marked on the unit load.

(2) Segregation must be observed; unit loads must not contain packages of explosives that are not permitted to be transported together by the provisions of Section 7.3 of this Code.

5.6 General Provisions for the Use of IBCs

(1) IBCs used for the transport of explosives must meet the requirements for intermediate bulk containers as detailed in Chapter 6.5 of the ADG Code.

(2) Before being filled and handed over for transport, every IBC must be inspected to ensure that it is free from corrosion, contamination or other damage and with regard to proper functioning of any service equipment. Any IBC which shows signs of reduced strength as compared with the tested design type must no longer be used or must be so repaired that it is able to withstand the design type tests.

(3) Every metal, rigid plastics and composite IBC, must be inspected and tested, as relevant, in accordance with Section 6.5.4.4 or Section 6.5.4.5 of the ADG Code or the *UN Model Regulations*:

(a) before it is put into service; and

(b) thereafter at intervals not exceeding two and a half and five years, as appropriate; and

(c) after repair or remanufacture, before it is re-used for transport.

(4) An IBC must not be filled and offered for transport after the date of expiry of the last periodic test or inspection. However, an IBC filled prior to the date of expiry of the last periodic test or inspection may be transported for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, an IBC may be transported after the date of expiry of the last periodic test or inspection:

(a) after emptying but before cleaning, for purposes of performing the required test or inspection prior to refilling; and

(b) unless otherwise approved by the Competent Authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of explosives or residues for proper disposal or recycling. Reference to this exemption must be entered in the transport document.

(5) Where two or more closure systems are fitted in series, that nearest to the explosive substance being carried must be closed first.

(6) During carriage, IBCs must be securely fastened to or contained within the transport unit so as to prevent movement or impact, and so as to provide adequate external support.

(7) IBCs of type 31HZ2 when transporting liquids must be filled to at least 80% of the volume of the outer casing and must be transported in closed cargo transport units.

(8) When IBCs are used for the transport of liquids with a flashpoint of 60°C (closed cup) or lower, or of powders liable to dust explosion, measures must be taken to prevent a dangerous electrostatic discharge.

5.2

CHAPTER 5
PART 2: USE OF PORTABLE TANKS

5.7 General Provisions

(1) This Section provides general provisions applicable to the use of portable tanks for the transport of explosives. Substances must be transported in portable tanks conforming to the applicable portable tank instruction and the portable tank special provisions assigned to each substance in the Numerical List in Appendix 2.

(2) Tanks, used for the transport of explosives subject to this Code, are to have been approved, or deemed acceptable for use, by a Competent Authority.

(3) The temperature of the outer surface of the shell, excluding openings and their closures, or of the thermal insulation must not exceed 70°C during transport. When necessary, the shell must be thermally insulated.

(4) The design approval certificate, the test report and the certificate showing the results of the initial inspection and test for each portable tank issued by the Competent Authority or its authorised body must be retained by the Authority or body and the owner. Owners must be able to provide this documentation upon the request of the Competent Authority.

(5) Unless the name of the substance(s) being transported is described on the metal plate affixed to the tank, a copy of the certificate specified in Section 6.7.2.18.1 of the ADG Code must be made available upon the request of a Competent Authority or its authorised body and readily provided by the consignor, consignee or agent, as appropriate.

5.8 Empty Uncleaned Tanks

Empty uncleaned tanks that have contained explosives must be treated in the same manner as is required by this Code for a filled tank, unless adequate measures have been taken to nullify any hazard.

5.9 Degree of Filling

(1) Prior to filling, the consignor must ensure that an appropriate portable tank is used and that the portable tank is not loaded with substances which, in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form dangerous products or appreciably weaken these materials. The consignor may need to consult the manufacturer of the substance in conjunction with a Competent Authority for guidance on the compatibility of the substance with the portable tank materials.

(2) Portable tanks must not be filled in excess of the maximum degree of filling specified in Section 5.9(3). The applicability of Section 5.9(3) to individual substances is specified in the relevant tank instructions or Special Provisions in Columns 10 and 11 of the Numerical List in Appendix 2 of this Code.

(3) The maximum degree of filling (as a %) for general use is determined by the formula:

$$\text{Degree of filling} = \frac{97}{1 + \propto (t_r - t_f)}$$

(4) In these formulae, α is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (t_f) and the maximum mean bulk temperature during transport (t_r) (both in °C). For liquids transported under ambient conditions, α could be calculated by the formula:

$$\alpha = \frac{d_{15} - d_{50}}{35 \times d_{50}}$$

in which d_{15} and d_{50} are the densities of the liquid at 15°C and 50°C, respectively.

(5) The maximum mean bulk temperature (t_r) shall be taken as 50°C except that, for journeys under temperate or extreme climatic conditions, the Competent Authorities concerned may agree to a lower or require a higher temperature, as appropriate.

(6) Portable tanks must not be offered for transport:

(i) with a degree of filling, for liquids having a viscosity less than 2,680 mm²/s at 20°C or at the maximum temperature of the substance during transport in the case of a heated substance, of more than 20% but less than 80% unless the shells of portable tanks are divided, by partitions or surge plates, into sections of not more than 7,500L capacity;

(ii) with residue of substances previously transported adhering to the outside of the shell or service equipment;

(iii) when leaking or damaged to such an extent that the integrity of the portable tank or its lifting or securing arrangements may be affected; and

(iv) unless the service equipment has been examined and found to be in good working order.

For certain dangerous substances, a lower degree of filling may be required.

(7) Forklift pockets of portable tanks must be closed off when the tank is filled. This provision does not apply to single-compartment portable tanks with a length less than 3.65 metres, provided that:

(i) the shell, including all the fittings, is well protected from being hit by the forklift blades; and

(ii) the distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.

6

CHAPTER 6: CARRY BOX, ENCLOSED VEHICLE BODY, FREIGHT CONTAINER AND VEHICLE DESIGN

6.1 Scope of Section

This Chapter sets out requirements for locks, carry boxes, enclosed vehicle bodies, freight containers, bulk vehicles, rail vehicles and special vehicles used in the transport of explosives.

6.1.1 Requirements for Locks

(1) Any receptacle, carry box, tank or closed transport unit used to transport explosives by road or rail must be lockable.

(2) If locks, such as padlocks or locksets, are used to provide locking security for high security risk loads of explosives being conveyed on a vehicle, the locks must be of a type equivalent to or better than SP3, K1 to K4, D1 or D2, C2 as described in AS 4145.2 and AS 4145.4.

(3) Where other types of locking mechanisms, such as security seals, are used to provide security for high security risk loads of explosives being conveyed on a vehicle, they must provide the level of security outlined in Section 6.1.1(2), above.

Note: *Australian Standards, AS 4255.1 and AS 4255.2, provide guidance about seals that may provide such security.*

6.2 Requirements for Carry Boxes and Enclosed Vehicle Bodies

(1) When an enclosed vehicle body or carry box is used in the transport of explosives (other than of Classification Code 1.4S, excluding detonators), in Category 1 and 2 quantities, the following requirements apply:

(a) a carry box and an enclosed vehicle body must be lockable;

(b) a carry box, when not contained within an enclosed vehicle body, must be securely attached to the vehicle;

(c) the inside surface of an enclosed vehicle body or carry box must be of wood or some other material incapable of producing incendive sparks;

(d) where the explosives are transported in sealed packages and in any enclosed portion of a road vehicle, a carry box is not required but the explosives must be stowed so that they are incapable of movement within the vehicle;

(e) the box or body must be strong enough to maintain its integrity during transport and built in such a manner that it adequately protects and secures the goods;

(f) the box or body must be weatherproof;

(g) the box or body must be closed and have a continuous floor to contain spillage; and

(h) a portable magazine complying with the requirements of AS 2187.1 may be used as a carry box if the magazine also complies with the carry box requirements.

(2) Carry boxes and enclosed vehicle bodies which are required for the transport of explosives in Category 3 quantities must comply with the following requirements:

(a) the box or body must be strong enough to maintain its integrity during transport and built in such a manner that it adequately protects and secures the goods;

(b) the box or body must be closed and have a continuous floor to contain spillage;

(c) the outer surface of the box or body must be made of steel not less than 0.9mm thick or of aluminium not less than 1.0mm thick, except that an insulated wooden body on a rail vehicle formerly approved by the Competent Authority may continue to be used;

(d) the closures of the box and the doors of the body must:

(i) be lockable,
(ii) overlap their openings, and
(iii) be weatherproof and sparkproof;

(e) the inner surface of the box or body must be made of wood or of another approved material which is incapable of producing incendive sparks except that an uninsulated steel body may be used in the transport of Type E blasting explosives (UN 0241, UN 0332);

(f) the carry box or enclosed vehicle body must have insulating and heat resisting properties which ensures that flame penetration of the wall or hot spots of more than 120ºC on the inner wall surface will not occur within 15 minutes from the start of a fire likely to occur from the operation of the vehicle;

(g) the inner surface of the box or body, must be clean, in good condition, and free of any defects or projections likely to cause damage to packages during transport;

(h) except where permitted under (e), no iron or steel must be exposed to the inside of the box or body; and

(i) the design of the carry box or enclosed vehicle body can be such that the exterior front wall and underside of the body can incorporate the firescreens as required in Section 6.4.2(2).

(3) When explosives are transported in an enclosed vehicle body the explosives must not be accessible from the cabin of the vehicle.

(4) Freight containers, other than for import or export purposes, used as carry boxes for the transport of explosives within Australia must comply with the requirements of Section 6.2 and AS/NZS 3711.

Note: *Freight containers meeting the requirements of Section 6.3 may only be used for the transport of explosives from the port of import to the first destination, or from the point of loading the container on to the vehicle to the port of export. This would normally involve a single journey of no more than five working days.*

(5) The above requirements do not apply to Commonwealth explosives when transported under the provisions of the Commonwealth Explosives Regulations.

6.3 Requirements for Freight Containers (Import and Export)

(1) Freight containers packed with explosives imported into Australia are required to comply with the IMDG Code. Freight containers to be packed for export are required to comply with the requirements of the IMDG Code and Marine Orders Part 41. Where a container is to be loaded with explosives it is required to be inspected by AMSA prior to the cargo being loaded.

(2) Freight containers used for the transport of explosives (other than Classification Code 1.4S excluding detonators) must comply with the following additional requirements:

(a) there must be only one opening to the container and each door section to the opening must be provided with two locking bars;

(b) except where (c) applies, the inside of the side and end walls, floor and doors of the container must be close lined with:

(i) bond plywood not less than 12mm thick of type B quality to AS 2271;

(ii) other timber not less than 17mm thick; or

(iii) aluminium sheet not less than 0.8mm thick;

extending at least 300mm above the load. The lining must be positioned adjacent to the walls of the container so as to provide a gap of at least 25mm, measured from the line of the inner surface of the container.

(c) the lining specified in (b) is not required where:

(i) all of the explosives in the container are in packagings having substantial wooden outside surfaces; or

(ii) all the explosives are Type E blasting explosives (UN 0241, UN 0332), in which case non-lined steel containers may be used.

(d) for free-flowing powdery explosives and fireworks, the floor or the floor lining of the freight container must have a non-metallic surface or covering which must be in a sound condition, be sift-proof and free from cracks.

(3) Within the limits of a port, any tine pockets on the freight container must be rendered inoperative.

6.4 Requirements for Vehicles

6.4.1 General Requirements for All Vehicles

(1) All vehicles used to transport explosives, other than unrestricted explosives must comply with the following requirements:

(a) the passenger compartment of a vehicle must not be used for the transport of explosives,

(b) when explosives are transported, the explosives must not be accessible from the cabin of the vehicle.

(2) The vehicle must be in sound mechanical condition and repair, and

(a) in the case of a road vehicle, be roadworthy; or

(b) in the case of a rail vehicle, be fit for its purpose and fully maintained;

(c) any interior surface of the vehicle in contact with the explosives (as packed) must be clean, in good condition, and free of any defects or projections likely to cause damage to packages during transport;

(d) all load securing devices must be in good condition and effective for their designed purposes; and

(e) the method of attachment of carry boxes, enclosed vehicle bodies or freight containers must be such that, when loaded, it is capable of withstanding a horizontal force of 2G.

6.4.2 Additional Requirements for Special Vehicles

(1) The requirements of this Section apply only to vehicles carrying explosives in a quantity sufficient to qualify for inclusion in Category 3, and do not apply to vehicles registered by the Department of Defence.

(2) Road vehicles must be approved, and comply with the following requirements:

(a) the whole of the vehicle tray must be covered with, or the tray must consist of, a horizontal firescreen of steel not less than 3mm thick unless the carry box or enclosed vehicle body is fitted with a horizontal firescreen of steel not less than 3mm thick;

(b) a vertical firescreen must be fitted between the vehicle cabin and the load. The firescreen must be of steel not less than 3mm thick, extending to the full width of the enclosed vehicle body and from the top of the vehicle cabin down to the horizontal firescreen separating the cabin and the body. The vertical and horizontal firescreens must meet for the full length of the contact line of the screens. The vertical firescreen must be so fitted that there is an air gap of at least 100mm between the firescreen and the cabin;

Note 1: *The exterior surface of the vehicle body, if of steel, may be utilised as part of the firescreen.*

Note 2: *A vertical firescreen is not required where the explosives are carried within a freight container where the end wall of the container provides equivalent resistance to a 3mm thick steel fire screen.*

Note 3: *However, where a freight container is transported with forward facing container doors on a cab-over vehicle, the vertical firescreen is still required.*

(c) where the exhaust runs beneath the load of explosives it must be located at least 50mm away from the firescreen;

(d) the vehicle battery must:

(i) be secured to prevent movement in the event of vehicle overturn;

(ii) be in an accessible position; and

(iii) have a substantial, acid resistant and ventilated cover which is electrically insulated on the side adjacent to the battery terminals;

(e) wiring outside and to the rear of the vertical firescreen must be carried in conduit in accordance with AS 2053 or AS D26 (flared fittings), or by an equally effective alternative means approved by the Competent Authority;

(f) each circuit, except the starting and ignition circuit, must be protected by a fuse or manual reset circuit breaker in accordance with the following requirements:

(i) the current rating of the fuse or circuit breaker must not exceed the rated current carrying capacity of the conductor; and

(ii) circuit breakers must be of the manual reset type with instantaneous short circuit protection capable of repeatedly opening the circuit in which it is used without failure;

(g) a battery isolation switch must be fitted and arranged to isolate the battery from all circuits and equipment, except where the maintenance of electrical supply to certain vehicle instrumentation within the cabin needs to be maintained;

(h) the means of operating the isolation switch in (g) must be:

(i) located on the driver's side of the vehicle immediately to the rear of the cabin, in such a position that it is clearly visible and easily accessible to a person outside the vehicle; and

(ii) clearly labelled to indicate its function and method of use;

(i) where the engine is fitted with an alternator, the battery isolation switch must be of a type which automatically opens the alternator field coil circuit immediately before the battery is isolated;

(j) the vehicle engine must be a compression ignition engine which uses a combustible liquid as a fuel; and

(k) the vehicle fuel tank may be located to the front or rear of the vertical firescreen, but if located to the rear of the firescreen, it must be:

(i) mounted below the horizontal firescreen;

(ii) protected so that the likelihood of accidental damage is minimal; and

(iii) designed to prevent accumulation of spilt fuel on any part of the vehicle.

6.4.3 Rail Vehicles

Rail vehicles must comply with the following requirements:

(a) the load carrying area of the vehicle must be an enclosed vehicle body complying with Section 6.2 or a freight container complying with the requirements of Section 6.3;

(b) any vehicle used to transport explosives, that has a combustible floor must:

(i) have a metal sub-floor; or

(ii) have adequate splash guards to ensure that sparks from the wheels or brakes cannot cause ignition of the vehicle or container; or

(iii) be a steel framed vehicle used to transport the explosives in a container which has a non-combustible floor.

6.4.4 Requirements for Bulk Vehicles (Excluding Transport in IBCs)

(1) Unless otherwise approved by the Competent Authority, vehicles may be used to transport explosives of Classification Codes 1.1D and 1.5D in bulk provided:

(a) the vehicle is a hopper-bodied vehicle which meets the requirements of Sections 6.4.1 and 6.4.2 or 6.4.4(3); or

(b) the explosives are loaded in portable tanks complying with the requirements of Chapter 5 Part 2; or portable tanks that have been approved, or been acceptable for use under the provisions of the ADG or IMDG Codes; or

(c) the explosives are loaded in a tank complying with the requirements of AS 2809 Parts 1 and 4, and if the tank is to be pressurised, the tank must also comply with the requirements of AS 1210. For tanks constructed to AS 2809 or AS 1210, Competent Authority design approval is required.

(2) The ullage in a tank vehicle or a bulk container containing explosives in the form of a liquid, slurry or paste must not be less than:

(a) 2% – for explosives having a coefficient of expansion of not more than 90 x 10^{-5} per Celsius degree;

(b) 3% – for explosives having a coefficient of expansion of more than 90 x 10^{-5} per Celsius degree but not more than 135 x 10^{-5} per Celsius degree;

(c) 4% – for explosives having a coefficient of expansion of more than 135 x 10^{-5} per Celsius degree but not more than 180 x 10^{-5} per Celsius degree; or

(d) 5% – for explosives having a coefficient of expansion of more than 180 x 10^{-5} per Celsius degree.

(3) Where hopper-bodied vehicles are used for the transport of explosives in bulk:

(a) the hopper has a hatch through which the explosive may be loaded;

(b) the hopper hatch must be capable of being sealed and locked so that it is weatherproof and not liable to come open during normal transport;

(c) the hopper has a suitable device to discharge the load;

(d) the hopper hatch must be capable of emergency venting in a fire;

(e) appropriate pumping equipment must be used for the transfer of the product;

and

(f) the vehicle, including the hopper, must meet any additional requirements specified by the Competent Authority.

(4) All vehicles used for the transport of explosives in bulk must have lockable openings for loading and discharge and these must be kept locked except during loading, discharging or cleaning.

CHAPTER 7: STOWAGE, SEGREGATION AND CLASSIFICATION OF EXPLOSIVES ON VEHICLES AND SPECIFICATION OF LOAD LIMITS

7.1 Scope of Section

This Chapter:

(a) sets out the rules for safely stowing and segregating explosives on vehicles and for classifying mixed loads of explosives;

(b) specifies the limits on loads of explosives to be transported on vehicles; and

(c) specifies the separation distances when transporting explosives on rail vehicles.

7.2 Safe Stowage

7.2.1 General Requirements

(1) Packages and IBCs of explosives must be stowed and secured in a freight container or on a vehicle so that they will remain in position on the vehicle notwithstanding vehicle movements of starting, stopping, jolting or swaying.

(2) When stowing and securing the load, all due precautions must be taken to prevent theft of the explosives and accidents by inadvertent initiation of the explosives.

(3) Packages must be stowed and secured in or on a road vehicle in accordance with the Load Restraint Guide.

(4) Explosives must be stowed in receptacles, enclosed portions of a vehicle, carry boxes, enclosed vehicle bodies, freight containers or special or bulk vehicles complying with the relevant provisions of Chapter 6.

(5) Loads of explosives must not project horizontally beyond the periphery of the vehicle.

(6) Where the outer packagings of the explosives and any other goods on the vehicle are of different shapes or are made of different materials, the different types of packages must be stowed so as to prevent the packages damaging one another.

(7) Equipment, articles or goods likely to cause damage, including manual handling equipment such as pallet jacks and conveyor rollers, must not be transported with fireworks or detonators. Such equipment, if transported with other types of explosives must be secured in a safe manner so that it will remain in position on the vehicle, notwithstanding vehicle movements of starting, stopping, jolting or swaying. Further, there must be a segregating partition secured between the explosives and the equipment.

(8) Should some of the contents of a vehicle be unloaded at an intermediate stop, the remaining packages of explosives must be rearranged so that they comply with the provisions of Section 7.2.1.

7.2.2 Specific Requirements for Freight Containers

(1) Packages of explosives must be stowed into a freight container so as to distribute the load evenly over the container floor, or otherwise arranged so that the weight distribution is symmetrical in relation to the lifting of the container.

(2) Any dunnaging materials used in the packing of explosives into freight containers must be kept dry before use and the amount used must be kept to a minimum.

(3) Where a container is being packed for export, packing of the container is required to comply with the Code entitled; "*IMO/ILO/UN ECE Guidelines for Packing of Cargo Transport Units*" as required by Chapter 7.5 of the IMDG Code.

7.3 Segregation of Explosives and Classification of Mixed Loads

7.3.1 Segregation from Other Goods

(1) Ammonium nitrate, ammonium nitrate mixtures or ammonium nitrate based explosives must not be carried with chlorates or chlorate based explosives.

(2) Explosives must not be transported in the same compartment of the vehicle as domestic, commercial or industrial refuse or waste; e.g. empty packagings, excess pallets.

(3) Explosives must not be transported on the same vehicle or combination road vehicle as other Classes of dangerous goods, fire risk substances or any other materials likely to cause, communicate or intensify fire, except as permitted by Section 7.3.1(4), or:

(a) where the dangerous goods are ammonium nitrate of Division 5.1 (UN 1942 or UN 2067), ammonium nitrate emulsions, suspensions, or gels (UN 3375), or alkali metal nitrates and alkaline earth metal nitrates;

Note 1*: Alkali Metal nitrates include UN1451 (Caesium Nitrate), UN1498 (Sodium Nitrate), UN2722 (Lithium Nitrate) and UN1486 (Potassium Nitrate). Alkali earth metal nitrates include UN1446 (Barium Nitrate), UN1474 (Magnesium Nitrate), UN1507 (Strontium Nitrate), UN2464 (Beryllium Nitrate) and UN1454 (Calcium Nitrate).*

Note 2: *Refer to Section 7.4.3 for the purpose of determining the total explosives load.*

(b) where the dangerous goods are in a container that is designed to form part of, and forms part of, the fuel or battery system of a vehicle's engine, auxiliary engine, air conditioner or other part of the vehicle's propulsion equipment;

(c) on articulated rail vehicles where the applicable separation distances specified in Table 7.3 can be provided on the one vehicle;

(d) where the dangerous goods are carried as tools of trade, do not exceed 1 kilogram/ litre and are in a separate compartment to the explosives;

(e) where wooden pallets are carried as part of the load or are in a separate compartment from the explosives; or

(f) in other circumstances specifically approved.

(4) The above segregation requirements do not apply to explosives of the types and quantities listed below, provided the aggregate of explosives and other dangerous goods carried is in a quantity below that requiring marking of the vehicle in accordance with this Code and the ADG Code:

(a)	Classification Code 1.2G	5kg
(b)	Classification Codes 1.3G, 1.3C	50kg
(c)	Classification Code 1.4G	250kg
(d)	Classification Code 1.4S excluding detonators	Unlimited

(5) Where a transport unit is being prepared for export the stowage and segregation requirements of the IMDG Code and Marine Orders Part 41 are required to be applied in addition to Section 7.3.1(1) to (4).

7.3.2 Segregation within Class 1 and Assignment of Division and Compatibility Group to Mixed Loads

(1) Explosives loaded for transport must be segregated in accordance with the provisions of Section 7.3.2.

(2) Explosives of different Divisions may be transported together and in such cases the Division of the whole load must be determined in accordance with Table 7.1.

(3) Unless segregated in accordance with Section 7.3.2(5) or (6) explosives in different Compatibility Groups, regardless of Division, must not be transported together except where permitted by Table 7.2.

(4) A load of explosives assigned to Division 1.5 or 1.6 in accordance with Table 7.1 must always be assigned to Compatibility Group D or N, respectively.

(5) Explosives not normally permitted by Section 7.3.2(3) to be transported together, may be transported on the same vehicle provided the incompatible explosives are segregated by:

(a) an effective means of segregation demonstrated to prevent sympathetic detonation of the incompatible explosives; or

(b) other means specifically approved by a Competent Authority for that purpose.

(6) Detonators of Classification Code 1.1B must not be transported on the same vehicle as other explosives except in accordance with an approved method (see Section 7.3.2(5)), or under the following conditions:

(a) the quantity of detonators does not exceed the upper Category 1 limit;

(b) the total quantity of explosives does not exceed the upper Category 2 limit which applies for the Division assigned to the load; and

(c) detonators must be separated from other explosives by at least 2 metres, or a lesser distance where separated by sufficient means to prevent fire or explosion communicating from the detonators to the other explosives.

(7) Detonators of Classification Code 1.4B or 1.4S may be carried with other explosives on the same vehicle provided they are in a separate carry box or compartment from the other explosives.

(8) The placarding of the vehicle must reflect the predominant characteristics of the combined load (e.g. blasting explosives of Classification Code 1.1D).

(9) If a detonator compartment forms part of a mixed explosives load, that compartment must be identified accordingly.

Note: *Explosives being packed for export are also required to be segregated and classified in accordance with the IMDG Code and Marine Orders Part 41.*

TABLE 7.1
Determination of Division for Loads Containing More than One Division (1)

Division	1.1	1.2	1.3	1.4	1.5	1.6
1.1	1.1	1.1	1.1	1.1	1.1	1.1
1.2	1.1	1.2	1.1	1.2	1.1	1.2
1.3	1.1	1.1	1.3	1.3	1.1	1.3 (3)
1.4	1.1	1.2	1.3	1.4	1.5	1.6
1.5	1.1	1.1	1.1	1.5	1.5	1.5
1.6	1.1	1.2	1.3	1.6	1.5	1.6 (2)

Notes:

(1) When more than two Divisions are present in any load, any two of those Divisions must be considered in determining a resultant Division, which must then be considered with the next Division and so on until all Divisions present in the load have been considered.

(2) Different types of articles of Division 1.6 may be transported together as Division 1.6 only when it is proved by testing or analogy that there is no additional risk of sympathetic detonation between the articles. Otherwise they should be treated as Division 1.1.

(3) Reference should be made to UN Model Regulations and also to ADR Volume 2.

TABLE 7.2
Permitted Mixed Transport for Goods of Class 1

Note: this table is based on Section 7.2.7.2.1.4 of the IMDG Code but there are variations in the requirements between the two.

Compatibility Group	A	B	C	D	E	F	G	H	J	K	L	N	S
A	(7)												
B		X											X(5)
C			X	X(6)	X(6)		(1)					X(4)	X(5)
D			X(6)	X	X(6)		(1)					X(4)	X(5)
E			X(6)	X(6)	X		(1)					X(4)	X(5)
F						X							X(5)
G			(1)	(1)	(1)		X						X(5)
H								X					X(5)
J									X				X(5)
K										X			X(5)
L											(2)		
N			X(4)	X(4)	X(4)							X(3)	X(5)
S		X(5)	X(5)	X(5)	X(5)	X(5)	X(5)	X(5)	X(5)	X(5)		X(5)	X(8)

"X" indicates that goods of the corresponding Compatibility Groups may be transported in the same compartment, carry box, freight container or vehicle (see Section 7.3.2(3)).

Notes:

(1) Explosive articles in Compatibility Group G (other than fireworks) may be transported with explosive articles of Compatibility Groups C, D and E provided explosives substances are not carried in the same compartment, carry box, freight container or vehicle.

(2) Explosives in Compatibility Group L must only be transported with the same type of explosives within Compatibility Group L.

(3) Different types of articles of Division 1.6, Compatibility Group N, may only be transported together as Classification Code 1.6N when it is proven that there is no additional risk of sympathetic detonation between the articles. Otherwise they should be treated as Classification Code 1.1D.

(4) When articles of Compatibility Group N are transported with articles or substances of Compatibility Groups C, D or E, the goods of Compatibility Group N must be treated as Compatibility Group D.

(5) Articles or substances of Compatibility Group S (other than detonators) may be transported with explosives of any other Compatibility Group, other than Groups A and L, without affecting the Compatibility Groups of those explosives. This note is not intended to preclude the transport of detonators of Compatibility Group S being transported with detonators of Compatibility Group B.

(6) Any combination of articles in Compatibility Groups C, D and E must be treated as Compatibility Group E. Any combination of substances in Compatibility Groups C and D must be treated as the most appropriate Compatibility Group taking into account the predominant characteristics of the combined load.

(7) Explosives of Compatibility Group A may only be transported with the approval of and subject to conditions imposed by the Competent Authority.

(8) Except detonators with other explosives.

7.4 Load Limits on Vehicles

7.4.1 Road Vehicles

Except as otherwise approved, road vehicles, including combination road vehicles, must not transport explosives in a quantity which exceeds:

(a) for Divisions 1.1, 1.2 and 1.3: 25 tonnes

(b) for Divisions 1.5 and 1.6: 40 tonnes

The quantity for Division 1.4 is unlimited.

Note: *The above limits may be subject to local Competent Authority requirements and transporters should verify these limits.*

7.4.2 Rail Vehicles

A rail wagon must not transport more than 40 tonnes of explosives of any Division other than Division 1.4, except in accordance with Table 7.4.

7.4.3 Calculation of Load Involving Ammonium Nitrate or Ammonium Nitrate Mixtures

(1) Where explosives of Division 1.1 or Division 1.5 are transported with ammonium nitrate, or ammonium nitrate mixtures, except for UN 3375 in accordance with Section 7.3.1(3)(a), half the mass of the ammonium nitrate or ammonium nitrate mixtures shall, for the purpose of determining the total explosives load, be treated as explosives of Division 1.1 or Division 1.5, respectively.

(2) Where explosives of Division 1.1 or Division 1.5 are transported with ammonium nitrate emulsions, suspensions, or gels (UN 3375), the total mass of the ammonium nitrate emulsions, suspensions, or gels (UN 3375) shall, for the purpose of determining the total explosives load, be treated as explosives of Division 1.1 or Division 1.5, respectively.

7.5 Separation of Rail Vehicles

7.5.1 Separation between Explosives and Other Dangerous Goods and Specified Vehicles

Category 2 and Category 3 loads of explosives carried on rail wagons must be separated from placard loads of other dangerous goods and from locomotives in power and other vehicles specified, by at least the distances specified in Table 7.3.

7.5.2 Separation between Explosives Vehicles

Except as provided in Section 7.5.3, rail vehicles transporting explosives of Division 1.1 or 1.2, in a quantity sufficient to qualify for inclusion in Category 3, must be separated from other rail vehicles transporting explosives by the distances specified in Table 7.4.

Note: *Explosives of Division 1.3, 1.4, or 1.6 are not subject to the separation requirements of Table 7.4.*

7.5.3 Exemptions from Separation

Rail vehicles transporting explosives need not be separated in accordance with Section 7.5.2 provided:

(a) the Competent Authority has issued a written approval which waives the requirement for separation of vehicles;

Note: *The approval may set the conditions for a particular load or may cover a number of loads over a given time period.*

(b) the appropriate times, routes of travel and other procedures designed to minimise delays, involvement with other trains and travel through densely populated areas, are determined by the rail operator and, if acceptable to the Competent Authority, these times, routes and any other conditions are specified in the approval; and

(c) that all rail operators and track owners involved in the transport of the particular load and all rail safety regulators and Competent Authorities, who have jurisdiction in any State or Territory through which the train will travel, agree in writing to the approval.

TABLE 7.3
Separation on a Train between Category 2 or 3 Loads of Explosives and Other Dangerous Goods Loads and Specified Vehicles

Class of Placard Load of Other Dangerous Goods or Type of Vehicle	**Minimum Distance (m) (1 & 2) Between the Category 2 or 3 Load of Explosives and the Specified Load or Vehicle**
Other Class 1	24 (3)
Class 2.1, 6.1, 6.2 or 7	24
Mixed Class Load	24
Class 2.2, 2.3, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 8 or 9	12
Locomotive in power	24
Guard's brake van	24
Vehicle carrying passengers	24
Wagon loaded with logs, rails, beams, pipes etc., without bulkhead	24
Fire risk vehicle	12
Bulk combustible liquid vehicle	12
Operating refrigerated container or power van	12

Notes:

(1) *These separation requirements are not reproduced in the ADG Code as that Code does not address Class 1 dangerous goods. As such this table should be read in addition to the separation requirements of the ADG Code for other classes of dangerous goods.*

(2) *In each instance, separation distances derived from this table are measured from the near end of the freight or bulk container, or from the near end of the load carrying section of the wagon where the dangerous goods are not in a freight or bulk container.*

(3) *This distance applies, except where a greater distance is determined from Table 7.4.*

TABLE 7.4

Separation on a Train between Rail Wagons Transporting Explosives of Division 1.1, 1.2 or 1.5 and other Placard Loads of Explosives.

Quantity (tonnes NEQ) of Explosives of Division 1.1 , 1.2 or 1.5 on the one Wagon	Minimum Distance (m) from Other Category 2 or 3 Loads of Explosives	
	For Division 1.1 or 1.5	For Division 1.2
≤1	24	24
>1–5	42	24
>5–10	54	30
>10–20	66	36
>20–30	72	36
>30–40	84	42

Notes:

(1) Where two wagons are transporting explosives of Division 1.1, 1.2 or 1.5, apply the greater distance determined from this table.

(2) In each instance, separation distances derived from this table are measured from the near end of the load carrying section of the wagon transporting the explosives.

(3) In applying this table (though not elsewhere in this Code), the separate load carrying platforms or wells of an articulated wagon may be considered as separate wagons.

8

CHAPTER 8: TRANSPORT OF EXPLOSIVES REQUIREMENTS AND PROCEDURES

8.1 Scope and Application

8.1.1 Scope

This Chapter sets out the requirements to be observed and the procedures to be followed in relation to the transport of explosives by road and rail.

8.1.2 Application

In this Chapter:

(a) Section 8.2 applies to the transport of explosives by any road or rail vehicle, in any quantity;

(b) Section 8.3 applies, in addition to Section 8.2, to the transport of explosives by any road vehicle in a quantity sufficient to qualify for inclusion in Category 2 or 3;

(c) Section 8.4 applies, in addition to Sections 8.2 and 8.3, to the transport of explosives by any road vehicle in a quantity sufficient to qualify for inclusion in Category 3;

(d) Section 8.5 applies, in addition to Section 8.2 to the transport of explosives by any rail vehicle in a quantity sufficient to qualify for inclusion in Category 2 or 3;

(e) Section 8.6 applies, in addition to Sections 8.2 and 8.5, to the transport of explosives by any rail vehicle in a quantity sufficient to qualify for inclusion in Category 3;

(f) Section 8.7 applies to the transport of particular types of explosives on passenger trains; and

(g) Section 8.8 applies to the transport of high security risk loads of explosives by road and rail.

8.2 Requirements Applying To Transport of Explosives in Categories 1, 2 and 3

8.2.1 Scope

Section 8.2 sets out requirements which apply to the transport of any quantity of explosives by a road or rail vehicle.

8.2.2 Explosives Prohibited for Transport

(1) Except where otherwise approved by the Competent Authority, a person must not offer for transport, or transport, explosives of Classification Code 1.1A.

(2) A person must not carry or transport explosives on any road vehicle which is carrying other passengers for hire and/or reward.

8.2.3 Requirements for Drivers of Road Vehicles

(1) A person must not drive a road vehicle used to transport explosives unless the person is authorised to do so under the relevant legislation.

(2) Such persons must not be so authorised if in the 10 years before the date of when the application for authorisation is made, or in the instance of renewals, since the date of the previous authorisation:

(a) the applicant has been found guilty by a court in Australia or elsewhere of an offence or offences that, in the opinion of the Competent Authority, makes the applicant inappropriate; or

(b) the applicant's driving history does, in the opinion of the Competent Authority, make the applicant inappropriate; or

(c) the applicant's criminal history determined from a national name check with a disclosable category of full exclusion is such that, in the opinion of the Competent Authority, makes the applicant inappropriate; or

(d) the applicant's politically motivated violence check, does in the opinion of the Competent Authority, make the applicant inappropriate.

(3) The provisions outlined in (1) and (2) above do not apply to transport of the following:

(a) unrestricted explosives; or

(b) other explosives, as allowed by the relevant Competent Authority.

8.2.4 Condition of Explosives Offered for Transport

Where an entry in Column 2 of Appendix 2 includes a statement to the effect that the particular explosives to which it refers;

(a) are of a specified composition;

(b) are mixed or wetted with another substance to an extent specified; or

(c) are inhibited, stabilised or phlegmatised;

then a person must not offer for transport or transport the explosives unless they are of the specified composition or the other substance is present to the extent specified or the explosives are so inhibited, stabilised or phlegmatised, and remain in that state during transport.

8.2.5 Packagings for Explosives for Transport

(1) Packaging is unsuitable for the transport of explosives if the packaging:

(a) is not approved packaging; or

(b) does not comply with Chapter 5; or

(c) does not comply with the packing instructions of Appendix 4.1 of this Code.

(2) Every person who packages explosives for transport must ensure that:

(a) the packaging of the particular explosives is suitable; and

(b) every packaging is marked in relation to the explosives contained therein in accordance with the requirements of Chapter 3.

(3) Section 8.2.5(2) does not apply if the explosives are for use at and are not transported beyond the boundaries of the premises or place where the goods are packaged.

(4) The Competent Authority may, on application, approve a packaging design type for use in the transport of explosives if:

(a) the applicant has carried out the tests referred to in Chapter 5 of this Code and those tests are consistent with Chapters 6.1, 6.5 and 6.6 of the ADG Code; and

(b) the Authority considers that a packaging of that design type would be safe for use in the transport of the explosives.

(5) The approval of a packaging design type may be subject to any condition necessary for the safe transport of explosives in packaging of that design type.

(6) The following testing facilities are recognised testing facilities for a packaging design type:

(a) a testing facility registered by NATA to conduct performance tests referred to under Chapter 5 of this Code and consistent with Chapters 6.1, 6.5 and 6.6 of the ADG Code for the packaging design type;

(b) a testing facility in Australia capable of conducting the performance tests, approved by a Competent Authority; if NATA has not registered a testing facility to conduct performance tests of that kind –or

(c) a facility in a foreign country approved by a public authority of the country to conduct performance tests of that kind.

(7) A recognised testing facility may certify in writing that a packaging design type has passed particular performance tests for particular explosives. The test report is to contain the information specified in the ADG Code in:

(a) Section 6.1.5.7 for packagings;

(b) Section 6.5.6.14 for IBCs; and

(c) Section 6.6.5.4 for large packagings.

(8) If a performance test is conducted by a testing facility registered by NATA, any test certificate must be in the appropriate form used by NATA registered testing facilities.

(9) If a performance test is conducted in Australia by a recognised testing facility that is not registered by NATA;

(a) the test must be observed by or for the Competent Authority; and

(b) any test certificate must contain the details required under Section 8.2.5(7) of this Code for the package in question.

8.2.6 Explosives Imported from Outside Australia

The following requirements apply to explosives imported from outside Australia in packages, IBCs, unit loads, freight containers or tanks not complying with the provisions of this Code:

(a) the importer or person who has custody or control of the explosives may offer or consign the explosives for transport only with approval of the Competent Authority; and

(b) a person who transports the explosives must ensure that all requirements of Chapter 8 are observed in relation to the transport of those explosives, and any additional conditions imposed by the approvals in Section 8.2.5(5) and Section 8.2.6(a).

8.2.7 Consigning Explosives for Transport

(1) A person who offers or consigns explosives for transport must take all practicable steps to ensure that the explosives have been packed (where required), and that every packaging of explosives has been marked in accordance with the requirements of Chapter 3.

(2) A person must not load or cause or permit to be loaded on a vehicle any packaging or IBC of explosives which is leaking or which is otherwise impaired to the extent that explosives may spill or leak from the packaging during transport.

(3) A person who transports explosives, or who loads or unloads explosives, in, on or from a vehicle or freight container must ensure that the requirements of Chapter 7 are observed.

(4) A person who picks up, transports or accepts delivery of explosives, is required to be authorised to do so in accordance with the relevant Commonwealth, State or Territory explosives legislation. Evidence of any such authorisation to transport must be carried on the transport vehicle.

(5) A person must only offer or consign explosives, other than unrestricted explosives, to prime contractors that have been appropriately identified and authorised.

8.2.8 Provision of Documentation for Road Transport

(1) A person who offers or consigns explosives for transport by road vehicle and the person who supervises the loading of the explosives or causes or permits the explosives to be loaded on the vehicle, must, before the vehicle leaves the premises or place where the explosives are loaded, ensure that the driver of the vehicle is provided with a copy of the transport documentation, prepared in accordance with Chapter 4, in respect of those explosives.

(2) The driver of a road vehicle and the prime contractor must ensure that explosives are not transported by the vehicle unless the driver has received a copy of the transport documentation in respect of the explosives referred to in Section 8.2.8(1).

(3) The driver of a road vehicle used to transport explosives must, while explosives are aboard the vehicle, ensure that all transport documentation provided to the driver under Section 8.2.8 are carried in the holder required by Section 8.3.8(1) where provided, and must produce the required emergency information for inspection by an authorised officer, or an officer of an emergency service, if the officer asks the driver to produce the information for inspection.

(4) Where the person who offers or consigns explosives for transport knows or could reasonably be expected to know, or is informed by the prime contractor, that a consignment of explosives will be sub-divided during transport by road for delivery to different destinations, that person must provide a separate transport document for each sub-division of the consignment of explosives.

8.2.9 Provision of Documentation for Rail Transport

For the rail journey, a train manifest may be used instead of transport documentation required by this Chapter provided:

(a) the train manifest contains, for each type of dangerous goods to be transported, the proper shipping name, the Class or Division and any Subsidiary Risk, the UN Number, the packing group (if any), the aggregate quantity, the wagon number and the location on the train where the goods are loaded; and

(b) provision is made for the train manifest to be updated when the attachment or detachment of vehicles loaded with dangerous goods occurs; and

(c) while ever the train is transporting dangerous goods, all of the information required by this Chapter to be included on the documentation is available from a central location provided by the rail operator for which contact details are provided on or with the manifest.

8.2.10 Control of Sources of Ignition

(1) A person conveying explosives on any vehicle must take all practicable precautions to prevent the occurrence of accidents through fire, explosion or other causes, or do any act that may cause this to occur.

(2) A person must not smoke nor light any fire or matches or cigarette lighters on any vehicle transporting explosives.

(3) A person must not carry any fire, matches or cigarette lighters on any vehicle transporting explosives, except where required as smoking accessories for the personal use of the driver and any attendants. In such cases, all smoking accessories must be carried in sealed containers, which would prevent the spreading of any inadvertent ignition, and which must be carried in the cabin of the vehicle.

(4) A person must not take radio transmitters, mobile phones, pagers and other radio frequency transmitters into an explosives carrying compartment.

(5) The driver of a vehicle conveying explosives must take all practicable steps to ensure that all other persons who travel in the vehicle comply with the requirements of Sections 8.2.10(1) to (4) inclusive.

8.2.11 Precautions During Loading and Unloading

The person in charge of an operation involving the loading or unloading of explosives in packages onto or from a vehicle must take all practicable precautions to ensure that the packages are not dropped, thrown or otherwise mishandled. Loading or unloading of explosives must not take place during thunderstorms.

8.2.12 Emergencies

(1) The driver of a road vehicle which has explosives aboard, must take all practicable precautions to prevent any theft of, or accident involving, the explosives.

(2) The driver of a vehicle which has explosives aboard must report or cause to be reported as soon as practicable to the nearest fire brigade or a member of the police force any theft, fire, accident, explosion, or accidental leakage or escape involving the explosives on the vehicle.

Note: *Most Commonwealth, State and Territory laws concerning explosives set out requirements for the reporting of theft and accidents. In the event of theft of explosives or an accident involving explosives, reference should be made to the appropriate law to determine the statutory requirement for reporting the theft or accident.*

(3) The driver of a vehicle subject to a report made in accordance with (2) must also take all safe and practicable steps:

(a) to provide reasonable assistance to an authorised officer or officer of an emergency service, as required by the officer;

(b) to carry out any emergency procedures recommended in the emergency information;

(c) to carry out the procedures set out in any emergency plan;

(d) if there has been an escape of explosives – to prevent other vehicles, other dangerous goods and any source of ignition from coming within 15 metres of the driver's vehicle, or, if a greater distance is specified in emergency information relating to the explosives, that distance;

(e) to warn or cause to be warned any person in the vicinity who may be at risk; and

(f) to prevent or minimise the theft and escape of the explosives and their entry into drains, sewers or natural watercourses.

(4) If a train transporting explosives is involved in an incident resulting in any theft, fire, accident, explosion or accidental leakage or escape involving the explosives on the train, the rail operator must:

(a) notify the police or fire service of the incident as soon as practicable;

(b) notify the track owner of the incident as soon as practicable; and

(c) provide reasonable assistance required by an authorised officer, or an officer of an emergency service, to deal with the situation.

(5) If a train is transporting explosives and an incident occurs that results in fire, accident, explosion or accidental leakage or escape of the explosives or any other dangerous situation, the driver of the train must take all safe and practicable steps:

(a) to refer to the emergency procedures detailed in the emergency information that relate to the explosives on the train;

(b) to make contact with train control and advise them of the details of the incident; and

(c) to protect the train.

8.2.13 Removal of Markings

All markings specified in Chapter 3 of this Code must be removed or concealed from view whenever the vehicle does not have explosives aboard.

8.2.14 Locking Requirements

The owner of a vehicle, used, or intended to be used to transport explosives, the prime contractor or rail operator and the driver of the road vehicle must ensure that any receptacle, carry box, other enclosed portion of a vehicle containing explosives, or closed transport unit used to transport explosives by road or rail is lockable and locked during the actual transport and when explosives are not being loaded into or accessed in the vehicle.

8.2.15 Explosives Security and Reconciliation

(1) The prime contractor or rail operator, and the driver of the road vehicle must ensure that a recorded check is carried out throughout the journey and at the final destination to determine that there has been no breach of any receptacle, carry box, other enclosed portion of a vehicle containing explosives, or closed transport unit used to transport explosives by road or rail.

(2) The consignor must ensure that a recorded check or audit is carried out at the final destination to determine that there is no discrepancy between the quantities and types of explosives loaded and unloaded against the documentation.

(3) Where any breach or discrepancy is discovered during a check or audit which cannot be legitimately explained or reconciled within a short period of time, the relevant prime contractor, rail operator, driver or consignor detecting such breach or discrepancy must immediately notify the local police and the relevant Competent Authority.

8.2.16 Requirements to Restrict Access to Explosives

The prime contractor or rail operator must ensure that any person having unsupervised access to explosives, other than unrestricted explosives, has been security cleared prior to such access.

8.2.17 Security Responsibilities

All persons engaged in the transport of explosives, including consignors, prime contractors, persons supervising loading or unloading and drivers, must consider security requirements for the transport of explosives commensurate with their responsibilities.

8.2.18 Precautions during Use of Road Vehicles

Except where the Competent Authority has accepted alternative security requirements, the owner, prime contractor and driver of a road vehicle loaded with explosives, other than unrestricted explosives, must ensure that a road vehicle loaded with explosives:

(a) is not left stationary unless the vehicle is either attended or guarded or equipped with an audible alarm, which will sound if either the driver's cabin or the load carrying compartment are entered or the engine is tampered with;

(b) is not left at temporary stops unless the vehicle is properly secured and, where possible, visible to the driver and inaccessible to the general public;

(c) is parked on private property only with the consent of the owner or occupier of the property, as far as reasonably practicable;

(d) is parked at least 5 metres away from any accumulation of combustible material including tall dry vegetation, and from any fuel or LP Gas storage or handling facility, which might be a fire risk to the vehicle;

(e) remains under supervision for at least 15 minutes after the engine has been stopped, to recognise any delayed brake or tyre fires; and

(f) is not parked on the same property on consecutive days or nights, or on frequent occasions, without advice being provided to the local police station and emergency services.

8.3 Additional Requirements for Road Transport of Explosives in Category 2 and 3

8.3.1 Application of Sub-Section

Section 8.3 sets out requirements which apply to the transport of explosives by a road vehicle in a quantity sufficient to qualify for inclusion in Category 2 or 3. These requirements are additional to those of Section 8.2.

8.3.2 General Duties of Consignors

(1) A person who offers or consigns explosives for transport by road must, before the explosives are loaded onto a road vehicle, take all practicable steps to ensure that the vehicle complies with the requirements of this Code and relevant legislation. For example, checking the validity of the vehicle's authorisation to transport.

Note: *Some Authorities require vehicles to be licensed or registered to transport explosives.*

(2) A person who offers or consigns explosives for transport by road must, prior to the explosives being presented for transport:

(a) give notice of the proposed shipment to the consignee and the prime contractor engaged to transport the explosives; and

(b) receive advice that the consignee, or a person authorised by the consignee, is prepared to receive the consignment on arrival, or that arrangements have been made for the driver to store the explosives in a place authorised for that purpose by the Competent Authority.

8.3.3 Design, Construction and Maintenance of Equipment for Transporting Packages of Explosives

(1) The owner of a road vehicle used or intended to be used to transport explosives in packagings, and the prime contractor, must ensure that:

(a) the vehicle, carry box, enclosed vehicle body, receptacle or freight container complies with and is maintained in accordance with the relevant requirements of Chapter 6; and

(b) adequate provision is made to secure the packages against movement during transport in accordance with Section 7.2.

(2) The owner of a road vehicle used to transport explosives must not drive or cause or permit the vehicle to be driven while knowing that any part of the vehicle or its equipment is worn or defective to the extent making it liable:

(a) to be a cause or a contributing cause of an accident; or

(b) to enable explosives to leak, spill or fall from the vehicle during transport.

8.3.4 Approval of Vehicles to Transport in Bulk

(1) A person must not use a road vehicle to transport explosives of Classification Codes 1.1D or 1.5D in bulk, unless that vehicle complies with Section 6.4.4.

(2) A person must not use a road vehicle to transport other explosives in bulk, other than in an IBC, unless that vehicle has been approved by the Competent Authority.

8.3.5 Insurance

(1) A road vehicle that is transporting explosives must be covered by a policy of insurance or other form of indemnity to the satisfaction of the Competent Authority, in respect of:

(a) property damage, personal injury and other damage (excepting consequential economic loss) arising out of any fire, explosion, leakage or spillage of explosives in, on or from the vehicle or a container transported on the vehicle; and

(b) costs incurred by or on behalf of a government authority or other agency in a clean-up resulting from any event of the kind referred to in (a).

(2) The amount of the insurance or indemnity referred to in Section 8.3.5(1) must be for a sum that is not less than:

(a) in the case of a road vehicle transporting explosives in a quantity not more than that specified for Category 2 – $2,500,000 per event; or

(b) in the case of a road vehicle transporting explosives in a quantity sufficient to qualify for inclusion in Category 3 – $5,000,000 per event.

(3) A prime contractor must take all practicable steps to ensure that, before explosives are transported by a road vehicle on behalf of the contractor, the owner of the vehicle holds a policy of insurance or other form of indemnity in accordance with Sections 8.3.5(1) and 8.3.5(2).

(4) When so requested by the Competent Authority, the owner of a road vehicle transporting explosives must, within 14 days of receipt of a request, supply to the Competent Authority documentary evidence that the indemnity or insurance policy required by Section 8.3.5(1) was in force at the time the explosives were carried.

8.3.6 Marking of Vehicles and Freight Containers

(1) The driver of a road vehicle used to transport explosives must, before the vehicle leaves the premises or place where the explosives were loaded onto or into the vehicle, ensure that:

(a) the vehicle is marked in accordance with the requirements set out in Section 3.4 in respect of those explosives and that type of vehicle; and

(b) all of the markings are firmly affixed and are fully exposed to view.

(2) A person who causes or permits explosives to be loaded onto a road vehicle must take all practicable steps to ensure that before the vehicle leaves the premises or place where the explosives were loaded:

(a) the vehicle is marked in accordance with the requirements set out in Section 3.4 in respect of those explosives and the type of vehicle; and

(b) all of the markings are firmly affixed and fully exposed to view.

(3) The owner of a road vehicle used to transport explosives, the driver and prime contractor must ensure that:

(a) no markings are displayed on the road vehicle which are inappropriate or misleading in regard to the identity or character of the explosives aboard; and

(b) all markings of the kinds specified in this Code are removed or concealed from view whenever the vehicle does not have explosives aboard.

(4) Where explosives are offered or consigned for transport in a freight container, the person who offers or consigns the explosives for transport must ensure that the container is marked in relation to the explosives contained therein, in accordance with the requirements set out in Section 3.3.

(5) The owner of a vehicle used to transport explosives, and the prime contractor, must ensure that the markings required to be displayed on a road vehicle under this Section 8.3.6 are:

(a) provided on the vehicle when the display of the markings is necessary to comply with the provisions of this Code; and

(b) clearly legible and in good condition.

8.3.7 Provision of Emergency Procedure Guides

(1) A person who offers or consigns explosives for transport by road vehicle and the person who supervises the loading of the explosives or causes or permits the explosives to be loaded on the vehicle, must, before the vehicle leaves the premises or place where the explosives are loaded, ensure that the driver of the vehicle is provided with an Emergency Procedure Guide appropriate to each type of explosives so loaded in addition to documentation required by Section 8.2.8(1).

(2) The driver of a road vehicle and the prime contractor must ensure that explosives are not transported by the vehicle, unless the driver has received a copy of the Emergency Procedure Guide in respect of the explosives referred to in Section 8.3.7(1).

(3) The Emergency Procedure Guide referred to in Section 8.3.7(1) is a guide outlining procedures to be taken in the event of an emergency involving the explosives, which is either:

(a) in the form specified in Figures 8.1 and 8.2;

(b) in the form, or substantially in the form, of an Emergency Procedure Guide for the explosives published by Standards Australia;

(c) in the form of HB76; or

(d) in a form approved by a Competent Authority in relation to explosives of that kind.

(4) Where the person who offers or consigns explosives for transport knows or could reasonably be expected to know, or is informed by the prime contractor, that a consignment of explosives will be sub-divided during transport by road for delivery to different destinations, that person must provide, where necessary, separate Emergency Procedure Guides, all in accordance with Section 8.3.7(3), for each sub-division of the consignment of explosives. This need not apply when a copy of HB76 is carried on the vehicle.

8.3.8 Carrying of Documentation and Emergency Procedure Guides

(1) The owner of a road vehicle transporting explosives, and the prime contractor, must ensure that:

(a) an emergency information holder is securely placed on a road vehicle and

is:

(i) a holder of suitable size and construction to hold Emergency Procedure Guides;

(ii) securely attached to the inside of a door of the cabin; or

(iii) if the construction of the vehicle does not allow the holder to be attached to the door in a conspicuous position, adjacent to the door; and

(b) the holder is marked with the words "Emergency Procedure Guides" or "Emergency Information" in red letters at least 10mm high on a white background.

(2) In addition to the provisions of Section 8.3.7(2) the driver of a road vehicle transporting explosives must:

(a) ensure that the Emergency Procedure Guides required by Section 8.3.7(1) are carried in the holder referred to in Section 8.3.8(1); and

(b) ensure that nothing but those Emergency Procedure Guides or HB76, appropriate to the explosives actually aboard and the transport documents required by Section 8.2.8(1) are carried in the holder.

8.3.9 Provision of Safety Equipment

(1) The owner of a road vehicle transporting explosives, and the prime contractor, must ensure that there are carried on the vehicle fire extinguishers complying with AS 1841.1 and AS 1841.5 in accordance with the following:

(a) where the explosives are in a quantity sufficient to qualify for inclusion in Category 2, at least one extinguisher which has a rating in accordance with AS 1850 of at least 30B; or

(b) where the explosives are in a quantity sufficient to qualify for inclusion in Category 3 an extinguisher which has a rating in accordance with AS 1850 of at least 10B in the cabin and either one extinguisher which has a rating of 80B or two extinguishers each of which have a rating of 40B.

(2) Where fire extinguishers are required to be carried on a vehicle under Section 8.3.9(1), the owner of the vehicle and the prime contractor must ensure that each extinguisher:

(a) is in a readily accessible position;

(b) is mounted in a properly attached quick-release bracket (but not inside the explosives carrying compartment); and

(c) is inspected and tested in accordance with AS 1851 Part 1.

(3) The owner of a road vehicle used to transport explosives, and the prime contractor, must ensure that the following items are provided in an accessible position on the vehicle:

(a) at least three double-sided reflector signals complying with AS 3790 which are clean and in good condition;

(b) a pair of wheel chocks; and

(c) any other safety equipment specified by the Competent Authority.

(4) The owner and prime contractor of a road vehicle used for the transport of explosives substances in bulk must ensure that the following items are provided in an accessible position on the vehicle:

(a) eyewash kit of at least 250 millilitres, filled and ready for use;

(b) chemically resistant gloves or gauntlets;

(c) goggles or full face shield;

(d) chemically resistant suit or overalls;

(e) chemically resistant boots; and

(f) an intrinsically safe electric torch complying with AS/NZS 60079.11 or other equivalent code.

8.3.10 Stowage of Packagings

(1) The person who supervises the loading of packagings of explosives onto a road vehicle for transport, the driver and prime contractor must ensure that:

(a) the explosives are stowed and segregated on the vehicle in accordance with the requirements set out in Sections 7.2 and 7.3; and

(b) the load limits of Section 7.4 are observed.

(2) The driver of a vehicle used to transport explosives in packagings and the prime contractor must ensure that the requirements of Chapter 7 are observed at all times while the explosives are on the vehicle.

(3) The driver of a road vehicle transporting explosives must, before the vehicle leaves the place or premises where the goods are loaded, ensure that any carry box, enclosed vehicle body, freight container or load carrying area of a special vehicle, is secured and locked, and remains secured and locked, except for such time as is necessary for the loading or unloading of the explosives.

8.3.11 Precautions During Use of Road Vehicles

(1) Prior to any explosives being loaded on a vehicle, the owner and driver of the vehicle must ensure that the vehicle has sufficient fuel to complete the proposed journey or is carrying its maximum fuel load. Should refuelling be necessary during the journey, the driver must take all practicable steps to ensure that:

(a) the refuelling is carried out in a remote location;

(b) the vehicle engine is shut down during refuelling;

(c) sources of ignition are at least 6 metres from the vehicle;

(d) refuelling is not carried out during thunderstorms; and

(e) mobile telephones and radio transmitters are not operated during refuelling.

(2) Except where stops are necessary to comply with the requirements of any law or are caused by vehicle breakdown, the driver of a vehicle carrying explosives, other than Division 1.4, must not –

(a) allow the vehicle to remain stationary in a public place within a town or city;

(b) make temporary stops within 100 metres of protected works, except for refuelling as permitted by Section 8.3.11(1); and

(c) make stops for long periods within 10 metres of a road, street, source of ignition or railway, or within the distances specified in Table 8.1 of other protected works.

Note: *Long period means a stop of more than one hour during a vehicle's journey.*

(3) Except where the Competent Authority has accepted alternative security arrangements, the owner, prime contractor and driver of a road vehicle must ensure that a road vehicle loaded with explosives is not left unattended unless the vehicle is guarded.

(4) The driver of a road vehicle transporting explosives, other than Division 1.4, must take all practicable steps to avoid close proximity to any other vehicle displaying Explosives Class labels or "EXPLOSIVES" placards, except when overtaking or passing the other vehicle.

(5) A person, apart from the following, must not ride on a road vehicle transporting explosives:

(a) an authorised officer, police officer or officer of an emergency service, or a person authorised to ride in the vehicle by such a person; or

(b) an employee of, or other adult person authorised to ride in the vehicle by, the owner of the vehicle or the prime contractor.

(6) The driver of a vehicle transporting explosives by road must ensure that, where the vehicle is broken down or otherwise immobilised, or has stopped on a road; and is a traffic hazard, other road users are alerted of the hazard by:

(a) if the battery has not been disconnected to prevent danger:

(i) and there are flashing hazard lights on the vehicle – turning the lights on and leaving them on while the vehicle is stopped; or

(ii) and there are no flashing hazard lights on the vehicle – turning the parking lights on and leaving them on while the vehicle is stopped; and

(b) placing a double sided reflector signal on the ground and clearly visible to the direction of traffic flow in each of the following locations:

(i) not less than 50 metres or more than 150 metres in front of the vehicle; and

(ii) not less than 50 metres or more than 150 metres behind the rear of the vehicle; and

(iii) beside the vehicle on the side closer to traffic.

(7) The driver referred to in (6) must also report the matter to the police as soon as practicable.

(8) The owner of a road vehicle transporting explosives which is disabled on a road must ensure that:

(a) the vehicle is repaired to the extent that it may be removed safely from the road as soon as possible and that adequate precautions are taken in the course of the repairs to ensure the safety of the vehicle and the explosives aboard: or

(b) the vehicle is towed in a safe manner to a place for repair as soon as possible. Should a vehicle require to be removed from the site by towing or otherwise, consideration should be given to removing it to a safe area to allow the explosives to be transferred to another vehicle. The owner of the road vehicle must apprise the operator of the tow vehicle of the hazards associated with the explosives on board the disabled vehicle.

TABLE 8.1
Distances (m) Between Protected Works and Stationary Road Vehicles Carrying Category 2 or 3 Loads of Explosives

Division Assigned to Load	Quantity of Explosives (kg) on Vehicle						
	>5 –25	>25 –250	>250 –1000	>1000 –5000	>5000 –10000	>10000 –20000	>20000 –40000
1.1	100	150	200	400	500	600	750
1.2	150	200	200	250	300	300	350
1.3	n/a	60	60	100	150	200	200
1.5	n/a	150	200	400	500	600	750
1.6	100	150	200	400	500	600	750

Notes:

(1) "n/a" means that this Table is not applicable (Table only applies to Category 2 and 3 quantities).

(2) The risk from articles of Division 1.6 is limited to the explosion of a single article and therefore the quantity of explosives referred to, is that of the largest NEQ of any article of the load.

8.3.12 Precautions during Loading and Unloading

(1) The provisions of this Section 8.3.12 apply to any operation involving the loading or unloading of explosives onto or from a road vehicle.

(2) The driver of the vehicle must not unload explosives at any premises or place unless:

(a) the consignee, or a person authorised by the consignee in accordance with Section 8.3.2(2) (b), is present to receive the explosives; or

(b) the driver, under a prior arrangement in accordance with Section 8.3.2(2) (b), places and secures the explosives in a place approved for the storage of explosives.

(3) The person in charge of the operation must take all practicable steps to ensure that:

(a) throughout the operation, sources of ignition are not brought closer than 6 metres to the point where those explosives are being loaded or unloaded; and

(b) the operation is completed without delay.

(4) The driver must ensure that throughout the operation the vehicle's engine is turned off and the vehicle's brakes or wheel chocks are applied to prevent movement.

(5) Unless otherwise approved, the person in charge of the operation must ensure that freight containers are not handled with forklift tines. This does not apply to Explosives Blasting Type E.

Note: *Within the limits of a port the container should, for all types of explosives, be lifted by a container lifting frame or chains.*

(6) Unless appropriate safety precautions are taken, a person must not load or unload explosives while the vehicle is on any street, road, highway or other public thoroughfare, except:

(a) where there is no other means of access to the place or premises where the operation is taking place;

(b) where the explosives are required for immediate use in blasting operations in the vicinity; or

(c) in an emergency involving the vehicle.

(7) The person in charge of the operation must ensure that explosives are only loaded or unloaded during hours of daylight, unless adequate artificial lighting is provided.

8.3.13 Driver Instruction and Requirements

(1) The owner of a road vehicle who employs a person to drive a vehicle transporting explosives and the prime contractor must ensure that the person is:

(a) adequately instructed as to the hazardous properties of the explosives transported on the vehicle;

(b) instructed as to the duties that the person is required to carry out pursuant to this Code;

(c) competent to operate all equipment aboard the vehicle, that it is among that person's duties to operate;

(d) trained in the use of fire fighting equipment, equipment for personal protection, and other emergency equipment that the person may be called upon to use;

(e) trained in the elements of security awareness including, the nature of security risks, recognising security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach. The training must include awareness of security plans, where relevant, and their responsibilities and role in implementing those plans. Such training must be provided prior to any explosives transport and must be periodically supplemented with retraining;

(f) given adequate instruction as to actions to be taken in the case of an accident involving the vehicle or the explosives aboard; and

(g) given adequate instructions not contrary to the provisions of this Code, as to any special routes and, if applicable, rules regarding overnight parking of the vehicle, which may be specified by the Competent Authorities through whose jurisdictions the vehicle will pass.

(2) The owner of a road vehicle who employs a person to drive a vehicle transporting explosives and the prime contractor must maintain records of all training undertaken by drivers.

(3) The driver of a vehicle who is given instructions under Section 8.3.13(1) (b), (f) and (g) must ensure that those instructions are followed while the vehicle transports explosives.

(4) The owner of a road vehicle who employs a person to drive a vehicle transporting explosives, the prime contractor and the driver must ensure the driver and each person on the vehicle transporting explosives carries with them means of identification, which includes their photograph, during transport.

8.3.14 Emergencies

(1) In the event of a fire, accident, explosion, leakage or spillage of explosives from a road vehicle the driver must, in addition to the steps required by Section 8.2.12, take all practicable steps:

(a) to notify the prime contractor as soon as possible; and

(b) display the reflector signals carried on the vehicle in accordance with Section 8.3.11(6)(b).

(2) Where explosives are transported by road vehicle, the person specified as the consignor for those explosives on the transport documents required by Section 8.2.8(1), must make such prior arrangements as are necessary so that in the event of a fire, explosion, leakage or spillage involving the explosives, any special equipment or supplies needed for recovering the explosives are available at the scene within a reasonable period of time.

(3) A prime contractor must make such prior arrangements as are necessary so that in the event of a fire, explosion, leakage or spillage in, on or from a vehicle used for transporting explosives on behalf of the contractor, any special equipment needed for recovering the vehicle is available at the scene within a reasonable period of time.

8.3.15 Approved Routes or Restricted Areas

(1) The Competent Authority may designate approved routes or restricted areas for the transport of explosives in such a quantity as defined by the Competent Authority.

(2) The driver must comply with any designated, approved routes and restricted areas when transporting explosives.

8.4 Additional Requirements for Road Transport of Explosives in Category 3

8.4.1 Application

(1) Section 8.4 sets out requirements which apply to the transport of explosives by a road vehicle in a quantity sufficient to qualify for inclusion in Category 3. These requirements are additional to those of Section 8.2 and Section 8.3 above.

(2) For the purpose of Section 8.4, quantities greater than 250kg Classification Code 1.5D explosives shall be deemed to be Category 3.

8.4.2 Requirements for Vehicles

The owner of a road vehicle used, or intended to be used, to transport explosives, and the prime contractor, must ensure that the vehicle meets the requirements of Section 6.4.

8.4.3 Requirements for Drivers and Attendants

A Competent Authority may authorise a person to drive a vehicle used to transport explosives if:

(a) the person is at least 21 years of age;

(b) the person has held a driver's licence for at least 12 months and performed 50 hours under the direct supervision of a driver experienced in transporting explosives and licensed in the equivalent class of licence;

(c) the person has demonstrated to the Competent Authority an adequate knowledge of:

(i) the nature and hazardous properties of explosives of the type to be transported; and

(ii) the actions to be taken to ensure the prevention of accidents, injury or damage to persons or property and to assist in any emergency that may arise in the course of transporting those explosives; and

(d) the person has been examined by a qualified medical practitioner, to the requirements specified in the publication, "Assessing Fitness to Drive", published by Austroads and found not to have any medical or physical condition that would impair the person's ability to perform the duties of a driver of a road vehicle used to transport explosives.

8.4.4 Requirements for Owners, Prime Contractors and Others

(1) The owner of a vehicle used for transporting explosives, and the prime contractor, must take all practicable steps to ensure that every person who drives the vehicle while explosives are aboard complies with the requirements of Section 8.4.3, and is authorised to do so under the relevant legislation.

(2) Subject to Section 8.4.4(3), the owner of the vehicle, and the prime contractor, must ensure that an attendant, who meets the requirements applied to drivers in Section 8.3.13(1), travels with the driver where the journey exceeds 5km or a greater distance specified by the Competent Authority.

(3) The attendant required by Section 8.4.4(2) may be replaced by a mobile communication system on board the vehicle, provided that:

(a) constant contact is available with a base and/or emergency services throughout the journey; and

(b) the driver is provided with a means of radio communication (e.g. portable UHF radio) which can be operated independently, away from the vehicle in cases of emergency; and

(c) the safety of loading and/or unloading operations is not compromised by reduction in available personnel; and

(d) the driver has been trained in the use of the communication system and in the emergency procedures to follow in the event of any incident en route to ensure safety and security of the load.

8.4.5 Precautions during Use of Road Vehicles

(1) Where a vehicle used for transporting explosives is fitted with a battery isolation switch in accordance with the requirements of Section 6.4.2(2)(g), the driver of the vehicle must ensure that, except where the use of the vehicle's lights is required to prevent a traffic hazard or to comply with the requirements of any law or this Code, the switch is opened and left open while the vehicle is parked.

(2) Except for the purposes of loading, unloading or checking the load, the stowage area of the vehicle must be locked and not be opened during the journey.

8.4.6 Emergencies

The prime contractor and the person who offers or consigns explosives for transport by road vehicle, must each ensure that a telephone service is provided and is attended at all times while explosives are aboard a road vehicle and that throughout that time, proper arrangements are maintained so that in the event of an emergency affecting the vehicle and being reported to the telephone service:

(a) technical advice as to the hazards of the particular explosives and the methods of controlling them and as to the containers, equipment and fittings on the vehicle is provided without delay to the caller; and

(b) where the caller purports to be an officer acting on behalf of the Competent Authority or a member of the emergency services, and requests that assistance be provided at the scene, at least one person suitably trained and competent to assist in controlling the emergency goes to the scene of the emergency without undue delay.

8.5 Additional Requirements for Rail Transport of Explosives in Category 2 and 3

8.5.1 Application of Sub-Section

Section 8.5 sets out requirements which apply to the transport of explosives by a rail vehicle in a quantity sufficient to qualify for inclusion in Category 2 or 3. These requirements are additional to those of Section 8.2.

8.5.2 General Duties of Consignors

A person who offers or consigns explosives for transport by rail must, prior to the explosives being presented for transport:

(1) give notice of the proposed shipment to the rail operator engaged to transport the explosives; and

(2) receive advice that the consignee, or a person authorised by the consignee, is prepared to receive the consignment on arrival.

8.5.3 Provision of Authorised Persons

(1) For rail transport where the vehicles, containers, tanks or vessels are continuously locked and/or sealed as prescribed and are for transport in accordance with the rail transport schedule and procedures, the presence of an authorised person is not required for the duration of the journey.

(2) The owner of a rail vehicle and the rail operator must ensure that an authorised person is present at dispatch and receipt of the explosives, and where vehicles, containers, tanks or vessels need to be opened en route, except in emergencies.

8.5.4 Design, Construction and Maintenance of Vehicles and Freight Containers for Transporting Explosives

(1) The owner of the rail vehicle, rail operator, the consignor, prime contractor or freight forwarder, as applicable below, must ensure that:

(a) the vehicle is of suitable design and construction for the type or types of explosives and packagings to be transported;

(b) the freight container or vehicle complies with, and is maintained in accordance with, the relevant requirements of Chapter 6; and

(c) adequate provision is made to secure the packagings against untoward movement on the vehicle during transport.

(2) The owner of a rail vehicle used to transport explosives and the rail operator must not permit the vehicle to be used while knowing that any part of the vehicle or its equipment is worn or defective to the extent making it liable:

(a) to be a cause or a contributing cause of an accident; or

(b) to enable explosives to leak, spill or fall from the vehicle during transport.

8.5.5 Insurance

(1) A rail vehicle that is transporting explosives must be covered by a policy of insurance or other form of indemnity to the satisfaction of the Competent Authority,

In respect of:

(a) property damage, personal injury and other damage (excepting consequential economic loss) arising out of any fire, explosion, leakage or spillage of explosives in, on or from the vehicle or a container transported on the vehicle; and

(b) costs incurred by or on behalf of a government authority or other agency in a clean-up resulting from any event of the kind referred to in (a).

(2) The amount of the insurance or indemnity referred to in Section 8.3.5(1) must be for a sum that is not less than:

(a) in the case of a rail vehicle transporting explosives in a quantity not more than that specified for Category 2 – $2,500,000 per event; or

(b) in the case of a rail vehicle transporting explosives in a quantity sufficient to qualify for inclusion in Category 3 – $5,000,000 per event.

(3) A prime contractor must take all practicable steps to ensure that, before explosives are transported by a rail vehicle on behalf of the contractor, the owner of the vehicle holds a policy of insurance or other form of indemnity in accordance with Sections 8.5.5(1) and 8.5.5(2).

(4) When so requested by the Competent Authority, the owner of a rail vehicle transporting explosives must, within 14 days of receipt of a request, supply to the Competent Authority documentary evidence that the indemnity or insurance policy required by Section 8.5.5(1) was in force at the time the explosives were carried.

8.5.6 Approval of Bulk Vehicles

(1) A person must not use a rail vehicle to transport explosives of Classification Code 1.1D and 1.5D in bulk, unless that vehicle complies with Section 6.4.3 and Section 6.4.4;

(2) A person must not use a rail vehicle to transport other explosives in bulk, other than in an IBC, unless that vehicle has been approved by the Competent Authority.

8.5.7 Marking of Vehicles and Freight Containers

(1) A person who is responsible for loading explosives onto a rail vehicle for transport must ensure that:

(a) the vehicle is marked in accordance with the requirements set out in Section 3.5 in respect of those explosives and the type of vehicle; and

(b) all of the markings are firmly affixed, fully exposed to view, clearly legible and in good condition.

(2) The owner of a rail vehicle and the rail operator must ensure that:

(a) no markings are displayed on the rail vehicle which are inappropriate or misleading in regard to the identity or character of the explosives aboard; and

(b) all markings of the kinds specified in this Code are removed or concealed from view when there are no explosives aboard.

(3) Where explosives are offered for transport in a freight container, the person who offers the explosives for transport must ensure that the container is marked in relation to the explosives contained therein, in accordance with the requirements set out in Section 3.3.

8.5.8 Stowage of Explosives

(1) The person who supervises the loading of packages of explosives onto a rail vehicle for transport must ensure that:

(a) the explosives are stowed and segregated on the vehicle in accordance with the requirements set out in Section 7.2 and Section 7.3; and

(b) the load limits of Section 7.4 are observed.

(2) A rail operator transporting explosives in packages must ensure that the requirements of Chapter 7 are observed at all times while the explosives are on the vehicle.

(3) Wherever possible, containers of explosives must be placed on a rail vehicle such that the doors are facing each other such that access to the doors is prevented.

(4) The person who supervises the loading of explosives in packages onto a rail vehicle for transport, shall, before the vehicle leaves the place or premises where the goods are loaded, ensure that any carry box, enclosed vehicle body or freight container, is secured and locked, and remains secured and locked, except for such time as is necessary for the loading or unloading of the explosives.

8.5.9 Separation of Vehicles

A rail operator transporting explosives must ensure that rail vehicles transporting explosives are separated, where required by Section 7.5, and that these provisions are observed at all times while the explosives are being transported.

8.5.10 Precautions during Use of Rail Vehicles

(1) Except where the Competent Authority has accepted alternative security arrangements, the rail operator must ensure that a rail vehicle loaded with explosives is not left stationary for more than one hour unless watched by an attendant.

(2) The rail operator must ensure that rail consignments of explosives have a schedule whereby the location of the wagon is continually monitored. This schedule is to be checked for the duration of the transport by a responsible person designated by the rail operator.

8.5.11 Precautions during Loading and Unloading

(1) This Section applies to any operation involving the loading or unloading of explosives onto or from a rail vehicle.

(2) The rail operator must not unload explosives, or permit explosives to be unloaded, at any rail operator's premises unless:

(a) the consignee, or a person authorised by the consignee in accordance with Section 8.5.2(2), is present to receive the explosives; or

(b) the rail operator places and secures the explosives in a place approved for the storage of explosives.

(3) The rail operator shall, by providing a contact telephone number or other means, enable a consignee to determine the actual time of arrival of the train transporting his or her consignment of explosives with sufficient accuracy to enable the consignee to be present to receive the consignment.

(4) The rail operator must take all practicable steps to ensure that:

(a) throughout the operation, sources of ignition are not brought closer than 6 metres to the point where those explosives are being loaded or unloaded; and

(b) the operation is carried out without delay.

(5) The rail operator must ensure that freight containers are not handled with forklift tines unless all the explosives in the container are of the water gel or emulsion type.

Note: *Within the limits of a port the container should, for all types of explosives, be lifted by a container lifting frame or chains.*

8.5.12 Provision of Emergency Procedure Guide

The driver of a train and the rail operator must ensure that explosives are not transported on the train unless a copy of an Emergency Procedure Guide specified in Section 8.3.7(3) is in the driver's cabin of the locomotive, or alternatively, the rail operator's Dangerous Goods Emergency Instructions for train crews, which provides contact numbers for dangerous goods emergencies on a 24 hour, 7 days a week basis, that can provide emergency advice and contact details of the consignee and is available from a central location provided by the rail operator.

8.5.13 Emergencies

(1) Where explosives are transported by a rail vehicle, the person specified as the consignor for those explosives on the transport document required by Section 8.2.9, must make such prior arrangements as are necessary so that in the event of a fire, explosion, leakage or spillage involving the explosives, any special equipment or supplies needed for recovering the explosives are available at the scene within a reasonable period of time.

(2) A prime contractor, rail operator and consignor shall make such prior arrangements as are necessary, so that in the event of a fire, explosion, leakage or spillage in, on or from a vehicle used for transporting explosives on behalf of the contractor, any special equipment needed for recovering the vehicle is available at the scene within a reasonable period of time.

8.6 Additional Requirements for Rail Transport of Explosives in Category 3

8.6.1 Application of Sub-Section

Section 8.6 sets out the requirements which apply to the transport of explosives by a rail vehicle in a quantity sufficient to qualify for inclusion in Category 3. These requirements are additional to the requirements of Section 8.2 and Section 8.5.

8.6.2 Requirements for Vehicles

The owner and/or operator of a rail vehicle used, or intended to be used; to transport explosives must ensure that the vehicle meets the design requirements of Section 6.4.3 and Section 6.4.4.

8.6.3 Emergencies

The rail operator and person who offers or consigns explosives for transport by rail vehicle, must each ensure that a telephone service is provided and is attended at all times while explosives are aboard a rail vehicle and that throughout that time, proper arrangements are maintained so that in the event of an emergency affecting the vehicle and being reported to the telephone service:

(a) technical advice as to the hazards of the particular explosives and the methods of controlling them and as to the containers, equipment and fittings on the vehicle is provided without delay to the caller; and

(b) where the caller purports to be an officer acting on behalf of the Competent Authority, the rail operator or a member of the emergency services and requests that assistance be provided at the scene, at least one person suitably trained and competent to assist in controlling the emergency goes to the scene of the emergency without undue delay.

8.7 Passenger Train Restrictions

8.7.1 Application of Sub-Section

Section 8.7 sets out the restrictions on the transport of explosives on passenger trains.

8.7.2 General Restriction

A person must not transport explosives or cause explosives to be transported in:

(a) a compartment of a passenger train occupied by passengers; or

(b) any other part of a passenger train, except as provided in Section 8.7.3 or where that transport has been specifically authorised by the rail operator.

8.7.3 Conditions of Transport

(1) The explosives specified in Section 8.7.5 in the quantities specified for those explosives may be transported:

(a) in a section of a passenger train reserved solely for the carriage of parcels;

(b) in a vehicle attached to a passenger train when that vehicle is not a passenger vehicle and the vehicle is not carrying people; or;

(c) in a locomotive or cabin of a train.

(2) The above may only be transported when:

(a) the explosives are packed in accordance with Chapter 5, unless an alternative packaging is permitted in Section 8.7.5 for the explosives and that packaging is used;

(b) every package of explosives is marked in accordance with Chapter 3; and

(c) the consignment of explosives is accompanied by a transport document prepared in accordance with Chapter 4.

8.7.4 Duty of Rail Operator

A rail operator must ensure that the quantity of explosives transported does not exceed the amount specified in respect of those explosives in Section 8.7.5.

8.7.5 Requirements for Particular Explosives

A person must not carry, cause or allow to be carried, explosives on a passenger train unless:

(a) the explosives are carried in accordance with the requirements of Section 8.7.3; and

(b) in quantities less than or equal to those stipulated in Table 8.2.

Table 8.2
Maximum Quantities of Explosives Carried on or attached to a Passenger Train

Explosive	UN Number	Classification Code	Maximum Quantity per Package	Maximum Number of Packages on One Train
SIGNALS, RAILWAY TRACK EXPLOSIVE commonly incorrectly referred to as "Railway Detonators"	UN 0193	1.4S	560 Signals	5
PRIMERS, CAP TYPE	UN 0044	1.4S	10kg	5
CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	UN 0012	1.4S	50kg	12
CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	UN 0014	1.4S		
CARTRIDGES, POWER DEVICE	UN 0323	1.4S		
FUSE, SAFETY	UN 0105	1.4S	20kg	5
FIREWORKS	UN 0336 UN 0337	1.4G 1.4S	10kg	5

8.8 Requirements for High Security Risk Loads of Explosives

8.8.1 Application of Sub-Section

Section 8.8 sets out requirements which apply to the transport of explosives by road and rail in a quantity sufficient to qualify as a high security risk load. These requirements are additional to those elsewhere specified in this Code.

8.8.2 Security Plans

(1) The prime contractor or rail operator must develop and maintain a written security plan that shall cover the arrangements and procedures for the transport of high security risk loads of explosives by road or rail and include at least the following:

(a) a description of the measures for preventing the theft of the explosives being transported by road or rail and for preventing unauthorised people from having access to those explosives;

(b) a statement setting out the vehicle design requirements for vehicles used to transport the explosives, and the load securing requirements for securing and protecting those explosives;

(c) a description of the arrangements for emergency communications in the event of an emergency involving those explosives;

(d) a statement setting out the requirements for training for persons involved in the transport of the explosives by road or rail (training would include dealing with security emergencies and transporting explosives safely);

(e) a statement setting out the requirements for ensuring that vehicles transporting the explosives travel by the safest practicable route, considering the risk, including the procedures for planning transport routes;

(f) procedures for the testing, evaluation, review and update of the security plan;

(g) nomination of the responsible person/security manager to implement and maintain the security plan, including the instruction of workers in the relevant access controls, recording procedures and reporting security incidents; and

(h) a list of all those, including any contractors, who will have unsupervised access to explosives, and who have been appropriately security cleared, including provisions for adding to or removing from the list.

(2) The prime contractor or rail operator must provide upon request the security plan for inspection by the relevant Competent Authority.

8.8.3 Compliance with Security Plans

(1) A person who transports high security risk loads of explosives must comply with all requirements of a security plan that are applicable to the person.

(2) Where there is conflict between a requirement of a security plan, as it applies to the person, and a requirement of this Code as it applies to the person, the requirement of this Code prevails to the extent of that conflict. Such conflict shall be reported to the prime contractor or rail operator.

8.8.4 Monitoring Systems Requirements

The owner of a road vehicle used, or intended to be used, to transport high security risk loads of explosives, and the prime contractor, must ensure that a system is in place that will ensure that:

(a) the location of high security risk loads of explosives is known and recorded, independent of the driver, in compliance with the security plan; and

(b) in the event of a breach of security involving high security risk loads of explosives, immediate notification is made of the nature, location and time of the event to enable response assistance.

Note: *For rail monitoring requirements refer to Section 8.5.10(2).*

8.8.5 Duties of Drivers, Prime Contractors, Rail Operators, Vehicle Owners and Others

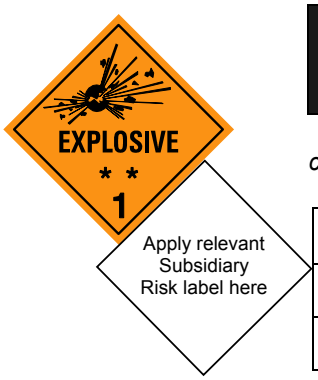
Any person involved in the transport and security provisions of high security risk loads of explosives must not involve or allow the involvement of any other person unless satisfied that the other person is operating under the relevant security plan.

8.8.6 Requirements for Persons Loading, Unloading and Transferring Explosives and Persons Working or Riding on a Vehicle

(1) A person must not ride on a road vehicle conveying high security risk loads of explosives unless that person has been security cleared.

(2) Where the monitoring requirements of Section 8.8.4 are met by the provision of an escort vehicle, then the requirements of Section 8.8.6(1) also apply to the driver, and any passengers, in that escort vehicle.

FIGURE 8.1



EMERGENCY PROCEDURE GUIDE
EXPLOSIVES – *Divisions 1.1. 1.2, 1.3, 1.5 & 1.6*

This Emergency Procedure Guide with all details completed below must be carried with the Transport Documentation in the cabin of the truck or locomotive.

NAME *(Proper Shipping Name or Authorised Name)*	Classification Code	Subsidiary Risk *(if any)*	UN Number

HAZARDS:

Fire: May burn and/or detonate if subjected to heat, flame or shock. Explosion will cause a blast and missile effects over a wide area.

Health: Fire may produce irritating or toxic smoke.

EMERGENCY CONTACT:

Dial "000" Police and Fire Brigade

Notify as to location, material, quantity, UN Number and Company Contact below:

Company	Location	Telephone Number Reverse charges accepted	Ask For

MISSING OR STOLEN EXPLOSIVES:

In the event of explosives being found to be stolen or missing, the driver shall ensure that the police (dial "000") and the Competent Authorities are notified as soon as possible.

EVACUATION DISTANCE

(to be completed by consignor)

Total Quantity of Explosives _____kg

Evacuation Distance _____metres

GUIDE FOR EVACUATION DISTANCE (M) ESTIMATE, BASED ON QUANTITY OF EXPLOSIVES	Quantity	Explosives Division 1.1	1.2	1.3	1.5	1.6‡
	Up to 1000 kg	400	200	100	400	400
	1000 to 5000 kg	600	300	150	600	600
	5000 to 20000 kg	800	400	200	800	800
	20000 to 40000 kg	1000	500	250	1000	1000
	‡ The risk from articles of Division 1.6 is limited to the explosion of a single article and therefore the quantity of explosives referred to is that of the largest NEQ of any article in the load.					

FIRST AID

Smoke Inhalation	• Remove patient to fresh air, lay down, rest • If patient is not breathing, make sure their airway is clear and apply artificial respirati • Keep patient warm • Call Doctor at once or transport to Doctor or Hospital
Eyes	• Hold eyes open and wash continuously with water for 15 minutes • Transport to Doctor or Hospital
Skin	• Remove all contaminated clothing, including shoes • Wash affected areas with water, using soap, if available
Burns	• Immerse affected area in cold water for 10-15 minutes • Bandage lightly with sterile dressing • Treat for shock, if required • Transport to Hospital or Doctor

– see **EMERGENCY PROCEDURES** on reverse

EMERGENCY PROCEDURES

If this happens	Do this
Cargo Fire	• Do not fight fire when fire reaches cargo. The cargo may explode • Contact Police by telephone or messenger. Tell them location, material in load and quantity • Remove all people from the area; see first page for evacuation distances • Divert all traffic away from the area • Allow the cargo to burn and keep area isolated for at least one hour after all fire and explosions have ceased
Tyre Fire	• Do not fight fire when fire reaches cargo. The cargo may explode • Contact Police by telephone or messenger. Tell them location, material in load and quantity • Stop vehicle and assess the risk of the fire spreading to the cargo • Flood tyre with water if available. If water is not available use extinguisher, dirt or other means • After extinguishment, remove tyre from vehicle and reignite. • If fire cannot be contained, treat as cargo fire
Body Fire	• Do not fight fire when fire reaches cargo. The cargo may explode • Contact Police by telephone or messenger. Tell them location, material in load and quantity • Assess the risk of the fire spreading to the cargo • Remove all people form the area; see first page for evacuation details • Divert all traffic away from the area • Attempt to extinguish fire with dry powder, water or foam extinguisher • If fire cannot be contained, treat as cargo fire
Engine or Cab Fire	• Do not fight fire when fire reaches cargo. The cargo may explode • Contact Police by telephone or messenger. Tell them location, material in load and quantity • Assess the risk of the fire spreading to the cargo • If possible, separate the prime mover from the trailer • Shut down engine. Isolate electricity with battery isolation switch or by disconnecting a battery cable • Attempt to extinguish fire with dry powder, water or foam extinguisher **Caution:** fire may erupt if the bonnet is raised; attack through any available opening without raising bonnet • If fire cannot be contained, treat as cargo fire
Brake Drum Overheating	• Stop vehicle • Allow brake drum to cool, or flood with water, if available • Do not drive vehicle until brake has been dismantled, inspected and if necessary repair • If fire has developed, assess the risk of the fire spreading to cargo, treat as for tyre fire • If fire cannot be contained, treat as cargo fire
Vehicle Accident	• Contact Police by telephone or messenger. Tell them location, material in load and Quantity • Check for fire, spills, leaks or movement of cargo • Do not disentangle or move vehicles without specialist advice
Spill	• Contact Police by telephone or messenger. Tell them location, material in load and Quantity • Eliminate all sources of ignition (no smoking, sparks, flames or flares) • Do not touch or walk through spilled material • Do not operate mobile telephones or radio transmitters within 100 metres of electric detonators • Do not clean up or dispose of, except under supervision of a specialist

IN ALL CASES NOTIFY THE AUTHORITIES

FIGURE 8.2

EMERGENCY PROCEDURE GUIDE
EXPLOSIVES – *Division 1.4*

This Emergency Procedure Guide with all details completed below must be carried with the Transport Documentation in the cabin of the truck or locomotive.

NAME *(Proper Shipping Name or Authorised Name)*	**Classification Code**	**Subsidiary Risk** *(if any)*	**UN Number**

HAZARDS:

Fire: May burn fiercely and increase the intensity of a fire.
May throw small missiles and burning debris over short range.

Health: Fire may produce irritating or toxic smoke.

EMERGENCY CONTACT:

Dial "000" Police and Fire Brigade

Notify as to location, material, quantity, UN Number and Company Contact below:

Company	**Location**	**Telephone Number** Reverse charges accepted	**Ask For**

MISSING OR STOLEN EXPLOSIVES:

In the event of explosives being found to be stolen or missing, the driver shall ensure that the police (dial "000") and the Competent Authorities are notified as soon as possible.

FIRST AID

Smoke Inhalation	• Remove patient to fresh air, lay down, rest • If patient is not breathing, make sure airway is clear and apply artificial respiration • Keep patient warm • Call Doctor at once or transport to Doctor or Hospital
Eyes	• Hold eyes open and wash continuously with water for 15 minutes • Transport to Doctor or Hospital
Skin	• Remove all contaminated clothing, including shoes • Wash affected areas with water, using soap, if available
Burns	• Immerse affected area in cold water for 10-15 minutes • Bandage lightly with sterile dressing • Treat for shock, if required • Transport to Hospital or Doctor

- see **EMERGENCY PROCEDURES** on reverse

EMERGENCY PROCEDURES

If this happens	Do this
Cargo Fire	• Stop all traffic, clear the area – call Police, use messenger • Emergency services should keep all persons at least 100 metres away or indoors if closer • For fire fighting, apply water (hose streams) from a sheltered position
Tyre Fire	• Stop vehicle • Assess fire and its extent in relation to the load and its hazards • Flood tyre with water if available • After flooding, remove tyre from vehicle if possible • Place tyre 15 metres from vehicle; it may later burst into flames • If fire cannot be put out, or tyre removed, start driving again carefully until burning rubber is thrown off • Send messenger to notify Fire Brigade and tell Police • Tell them location material in load and quantity • If unable to control fire, treat as cargo fire
Body Fire	• If practical, move truck to remote location. Phone Police or use messenger • Use extinguisher. If unsuccessful, clear the area • Stop all traffic • Emergency services should evacuate all persons to sheltered sites; (see first page) • For fire fighting, apply water (hose streams) or foam from a sheltered position • If fire approaches cargo, treat as cargo fire
Engine or Cab Fire	• If vehicle is a semi-trailer, separate the prime mover from the trailer, if possible • Use dry chemical fire extinguisher, water or foam • Disconnect one battery cable • If unsuccessful, clear the area - treat as cargo fire
Brake Drum Overheating	• Stop vehicle • Assess the fire and its extent in relation to the load and its hazards • Allow brake drum to cool, or flood with water, if available • Do not drive vehicle until brake has been dismantled, inspected and if necessary repaired • If fire develops, and cannot be controlled - treat as cargo fire
Vehicle Accident	• Check for spills or leaks • Do not move vehicle if movement causes spillage • Do not disentangle or move accident vehicles without specialist advice
Spill	• Eliminate all sources of ignition. No smoking. Obtain expert advice regarding clean-up

IN ALL CASES NOTIFY THE AUTHORITIES

CHAPTER 9: TECHNICAL APPENDICES

9.1 Scope

Chapter 9 consists of nine Technical Appendices, including their Addenda, as set forth in the following pages. The general format of an Appendix is to have, at its commencement, a series of Notes, followed by the Appendix itself, then any Addenda. The notes have been included as an aid in fully understanding and interpreting the matter of the Appendix. An Addendum may be either material called up from the Appendix itself or a dissertation.

These appendices are:

Appendix 1: Alphabetical List of Explosives and Related Goods.

Appendix 2: Numerical List of Explosives and Related Goods.

Addendum I: Classification of explosives.
Addendum II: Determination on mixtures and solutions.
Addendum III: Assignment of proper shipping names and UN Numbers to mixtures and unlisted substances.

Appendix 3: List of Special Provisions.

Addendum I: Diluted substances.
Addendum II: Desensitised Explosives.
Addendum III: Unlisted substances.

Appendix 4.1: Packing Instructions.

Appendix 4.2: Tank instructions.

Addendum I: Reproduction of relevant Sections of Chapter 6.7 of the *ADG Code*.

Appendix 4.3: Bulk Container Instructions.

Appendix 5: Glossary of Terms used to describe some Substances and Articles and Related Expressions.

Appendix 6: List of Generic or N.O.S. Proper Shipping Names.

Appendix 7: HAZCHEM Codes, initial emergency response information.

Appendix 8: List of Substances and Articles against their Classification Codes.

Appendix 9: Goods Too Dangerous to be Transported - lists goods which are prohibited for transport, unless specifically authorised by a Competent Authority.

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9.2 List of the More Common Acronyms and Abbreviations Used in these Appendices or Common Parlance.

ADR	*"L'Accord Européen relatif au Transport International des Merchandises Dangereuses par route"* which basically translates as the "European Agreement Concerning the International Carriage of Dangerous Goods by Road".
ANFO	Ammonium Nitrate/Fuel Oil
ANE	Ammonium nitrate, emulsion, suspension or gel, intermediate for blasting explosives (see, SP 309)
ASTM	American Society for Testing and Materials
CE	Composition, exploding
EEI	Explosive, extremely insensitive
EID	Electrically Initiated Device
EVI	Explosive, very insensitive
HMX	Properly the pseudo-acronym for "Homocyclonite" being –Cyclotetrame thylenetetranitramine.
HNS	Hexanitrostilbene
IBC	Intermediate Bulk Container
IMO	International Maritime Organization
IMDG	International Maritime Dangerous Goods Code
ISO (standard)	An international standard published by the International Organization for Standardization
LOX	Liquid Oxygen Explosives
NC	Nitrocellulose
NG	Nitroglycerin
N.O.S	Not Otherwise Specified
NTO	Nitrotriazolone
PETN	Pentaerythrite tetranitrate
RDX	Properly the acronym for 'Research Development Explosives' being – Cyclotrimethylenetrinitramine.

RID	*'Règlement International Concernant le Transport des Marchandises Dangerouses'* which basically translates as the "International Regulations Concerning the Carriage of Dangerous Goods by Rail"
SADT	Self accelerating decomposition temperature
SP	Special Provision
TNT	Trinitrotoluene
UNECE	United Nations Economic Commission for Europe
UN Number	Four-digit United Nations Number is assigned to dangerous, hazardous and harmful substances, materials and articles most commonly transported.

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APPENDIX 1
ALPHABETICAL LIST OF EXPLOSIVES AND RELATED GOODS

NOTES:

(1) Appendix 1 is an alphabetical list of the substances and articles that are listed in numerical order in Appendix 2.

(2) Appendix 9 lists goods which are prohibited for transport, unless specified elsewhere in this Code or specifically authorised by a Competent Authority.

(3) For completeness Appendix 1 also lists dangerous goods, not being of Class 1, which fall into one of five categories, namely those goods:

(i) which with less phlegmatiser, dilutent or stabiliser would be of Class 1;

(ii) where, if the goods were presented in a different form, (e.g. finer, of a different nitration level or with sufficient impurities) would be of Class 1;

(iii) which may be required to bear a Class 1 Subsidiary Risk label;

(iv) not of Class 1, which have a Proper Shipping Name very similar to similar goods, being of Class 1; and

(v) which are or are very similar to precursors for explosives.

(4) Guide as to reading the alphabetical list:

(i) the name of a substance or article in upper case indicates a proper shipping name;

(ii) the name of a substance or article in upper case followed by the word "see" indicates an alternative proper shipping name or part of a proper shipping name;

(iii) an entry in upper case followed by the word "see" indicates that the entry is not a proper shipping name; it is a synonym;

(iv) where an entry is partly in upper case and partly in lower case letters, the latter part is considered not to be part of the proper shipping name;

(v) a proper shipping name may be used in the singular or plural, as appropriate, for the purposes of documentation and package marking; and

(vi) where an alphabetical entry has multiple UN Numbers listed, the numbers are listed in order of decreasing hazard division.

1.1 Guide as to how the Alphabetical Order has been Determined

(1) Except as indicated below, the chemical entries under "name and description" are sorted in traditional chemical alphabetical order, all other entries are sorted rigorously alphabetically. (Case and Spaces are ignored).

Note: *All entries for sulphur compounds are now spelt with an "f" in lieu of "ph". "Sulfur" is the preferred spelling but "sulphur" may be used as an alternative [Similarly the preference is Caesium not Cesium and Aluminium not Aluminum].*

(2) To assist locating the Proper Shipping Name or other entry some of the rules used are set out below.

A. Treatment of Prefixes – Ignored Prefixes

For the purpose of determining the alphabetical order, the following at the head of or elsewhere within the entry do not affect the order even when they form part of the entry unless the numerals, Greek letters or abbreviations are the only difference. In these instances the order is determined by the increasing natural numerical order or by the alphabetical order (Greek or English as the case may be) respectively.

Numbers: 1, 2, 3, 4, etc. and I, II, III, IV etc.

Greek letters: e.g. Alpha –α, Beta – β, Gamma – γ and Omega –ω

The abbreviations:

cis reflecting a particular type of stereoisomerism
H meaning "indicated or added Hydrogen"
m meaning meta
n meaning normal
N meaning "attached to Nitrogen"
o meaning ortho
O meaning "attached to Oxygen"
p meaning para
S meaning "attached to Sulfur"
sec meaning secondary
tert meaning tertiary
trans reflecting a particular type of stereoisomerism

B. Treatment of prefixes – Non-ignored prefixes

Unlike the prefixes in A above, the following prefixes do determine the order for such names:
BI, CYCLO, EPI, ISO, NEO, PER, BIS, TRIS, TETRAKIS;

Greek prefixes denoting number such as: MONO, DI, TRI, TETRA, PENTA, ORTHO and PARA.

Note: *The simple numerical prefixes DI, TRI, TETRA, etc. are used to indicate a multiplicity of substituent suffixes, conjunctive components, replacement affixes, simple (i.e., un-substituted) substituent prefixes, and simple functional modification terms provided that there is no ambiguity.*

The multiplicative numerical prefixes BIS, TRIS, TETRAKIS, etc. are used to indicate a multiplicity of substituted substituent prefixes or functional modification terms. Such prefixes may also be used when the use of DI, TRI, TETRA, etc., could be ambiguous.

C. Some examples of the preceding rules are as follows:

"5-*tert*-BUTYL-2,4,6 -TRINITRO-*m*-XYLENE" would appear under "B";

"5-NITROBENZOTRIAZOL" would appear under "N";

"TRINITROANISOLE" would appear under "T".

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D. In addition to the above, two other conventions have been adopted:

The first is used within an entry, which itself generally will commence (save for the leading letter) in lower case, where there exists a number of options. Two instructive examples would be "Ammunition, small arms" and "Flares, aeroplane". The convention adopted is that the *"name and description"* entry increases in numero-alpha order, save when there exists two or more of the same numero-alpha entries, when the order is established by the increase in the numerical order of the UN Number.

The second is used when there exist, two or more identical Proper Shipping Names. An instructive example would be "ARTICLES, EXPLOSIVE, N.O.S.". The convention adopted is that the order of such Proper Shipping Names is established by the increase in the numerical order of the UN Number.

ALPHABETICAL LIST OF EXPLOSIVES AND RELATED GOODS

Name and description	Class	UN No	Subrisk
Aeroplane flares, see	1.1G 1.2G 1.3G 1.4G 1.4S	0420 0421 0093 0403 0404	
AGENT, BLASTING, TYPE B, see	1.5D	0331	
AGENT, BLASTING, TYPE E, see	1.5D	0332	
AIR BAG INFLATORS	1.4G 9	0503 3268	
AIR BAG MODULES	1.4G 9	0503 3268	
Aircraft evacuation slides, see	9	2990	
Aircraft survival kits, see	9	2990	
ALANFO, see	1.1D	0082	
Amatols, see	1.1D	0082	
2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass	4.1	3317	
AMMONIUM NITRATE BASED FERTILISER	5.1 9	2067 2071	
AMMONIUM NITRATE EMULSION, intermediate for blasting explosives	5.1	3375	
Ammonium Nitrate explosive, see	1.1D 1.5D	0082 0331	
AMMONIUM NITRATE GEL, intermediate for blasting explosives	5.1	3375	
AMMONIUM NITRATE, LIQUID (hot concentrated solution)	5.1	2426	
AMMONIUM NITRATE SUSPENSION, intermediate for blasting explosives	5.1	3375	
AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	1.1D	0222	
AMMONIUM NITRATE, with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance	5.1	1942	
AMMONIUM PERCHLORATE	1.1D 5.1	0402 1442	
AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	1.1D	0004	

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Name and description	Class	UN No	Subrisk
AMMONIUM PICRATE, WETTED with not less than 10% water, by mass	4.1	1310	
Ammunition, blank, see	1.1C	0326	
	1.2C	0413	
	1.3C	0327	
	1.4C	0338	
	1.4S	0014	
Ammunition, fixed) see Ammunition, semi-fixed) Ammunition, separate loading,)	1.1E	0006	
	1.1F	0005	
	1.2E	0321	
	1.2F	0007	
	1.4E	0412	
	1.4F	0348	
AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.2G	0171	
	1.3G	0254	
	1.4G	0297	
AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge	1.3J	0247	
AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.2G	0009	
	1.3G	0010	
	1.4G	0300	
Ammunition, incendiary (water activated contrivances) with burster, expelling charge or propelling charge, see	1.2L	0248	
	1.3L	0249	
AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.2H	0243	
	1.3H	0244	
Ammunition, industrial, see	1.2C	0381	
	1.3C	0275	
	1.3C	0277	
	1.4C	0276	
	1.4C	0278	
	1.4S	0323	
Ammunition, lachrymatory, see	1.2G	0018	6.1, 8
	1.3G	0019	6.1, 8
	1.4G	0301	6.1, 8
	6.1	2017	8
AMMUNITION, PRACTICE	1.3G	0488	
	1.4G	0362	
AMMUNITION, PROOF	1.3G	0363	
Ammunition, small arms	1.3C	0327	
	1.3C	0417	
	1.4C	0338	
	1.4C	0339	
	1.4S	0012	
	1.4S	0014	

Name and description	Class	UN No	Subrisk
AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.2G 1.3G 1.4G	0015 0016 0303	
Ammunition, smoke (water-activated contrivances), white phosphorus with burster, expelling charge or propelling charge, see	1.2L	0248	
Ammunition, smoke (water-activated contrivances), without white phosphorus or phosphides with burster, expelling charge or propelling charge, see	1.3L	0249	
AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.2H 1.3H	0245 0246	
Ammunition, sporting, see	1.2C 1.3C 1.4C 1.4S	0328 0417 0339 0012	
AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	6.1	2017	8
AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.2G 1.3G 1.4G	0018 0019 0301	6.1, 8 6.1, 8 6.1, 8
AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1.2K 1.3K	0020 0021	6.1 6.1
Ammunition, toxic (water-activated contrivances) with burster, expelling charge or propelling charge, see	1.2L 1.3L	0248 0249	
AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	6.1	2016	
Amorces (caps, toy), see	1.1G 1.4G 1.4S	0333 0336 0337	
AN, see ammonium nitrate entries	-	-	
AN emulsions, see ammonium nitrate entries	1.1D 1.5D 5.1	0241 0332 3375	
ANFO, see	1.1D	0082	
AN gelignite, see	1.1D	0081	
ARTICLES, EEI, see	1.6N	0486	
ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE	1.6N	0486	

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Name and description	Class	UN No	Subrisk
ARTICLES, EXPLOSIVE, N.O.S.	1.1C	0462	
	1.1D	0463	
	1.1E	0464	
	1.1F	0465	
	1.1L	0354	
	1.2C	0466	
	1.2D	0467	
	1.2E	0468	
	1.2F	0469	
	1.2L	0355	
	1.3C	0470	
	1.3L	0356	
	1.4B	0350	
	1.4C	0351	
	1.4D	0352	
	1.4E	0471	
	1.4F	0472	
	1.4G	0353	
	1.4S	0349	
ARTICLES, PYROPHORIC	1.2L	0380	
ARTICLES, PYROTECHNIC for technical purposes	1.1G	0428	
	1.2G	0429	
	1.3G	0430	
	1.4G	0431	
	1.4S	0432	
AZODICARBONAMIDE	4.1	3242	
Bag charges, see	1.1C	0279	
	1.2C	0414	
	1.3C	0242	
Ballistite, see	1.1C	0160	
	1.3C	0161	
Bangalore torpedoes, see	1.1D	0137	
	1.1F	0136	
	1.2D	0138	
	1.2F	0294	
Baratol, see	1.1D	0084	
BARIUM AZIDE, dry or wetted with less than 50% water, by mass	1.1A	0224	6.1
BARIUM AZIDE, WETTED with not less than 50% water, by mass	4.1	1571	6.1
BLACK POWDER, COMPRESSED	1.1D	0028	
BLACK POWDER, granular or as a meal	1.1D	0027	
BLACK POWDER, IN PELLETS	1.1D	0028	
Blasting agent, see	1.1D	0082	
	1.5D	0331	
Blasting cap assemblies, see	1.1B	0360	
	1.4B	0361	

Name and description	Class	UN No	Subrisk
Blasting caps, electric, see	1.1B	0030	
	1.4B	0255	
	1.4S	0456	
Blasting caps, non electric, see	1.1B	0029	
	1.4B	0267	
	1.4S	0455	
Blasting gelatine, see	1.1D	0081	
BOMBS with bursting charge	1.1D	0034	
	1.1F	0033	
	1.2D	0035	
	1.2F	0291	
Bombs, illuminating, see	1.3G	0254	
BOMBS, PHOTO-FLASH	1.1D	0038	
	1.1F	0037	
	1.2G	0039	
	1.3G	0299	
BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device	8	2028	
Bombs, target identification, see	1.2G	0171	
	1.3G	0254	
	1.4G	0297	
BOMBS WITH FLAMMABLE LIQUID with bursting charge	1.1J	0399	
	1.2J	0400	
BOOSTERS without detonator	1.1D	0042	
	1.2D	0283	
BOOSTERS WITH DETONATOR	1.1B	0225	
	1.2B	0268	
BURSTERS, explosive	1.1D	0043	
5-tert-BUTYL-2,4,6-TRINITRO-m-XYLENE	4.1	2956	
Cable cutters, explosive, see	1.4S	0070	
Caps, percussion, see	1.1B	0377	
	1.4B	0388	
	1.4S	0044	
Cartridge cases, empty, primed, see	1.4C	0379	
	1.4S	0055	
Cartridges, actuating for, aircraft ejector seat, catapult, canopy removal, fire extinguisher or apparatus valve, see	1.2C	0381	
	1.3C	0275	
	1.4C	0276	
	1.4S	0323	
Cartridges, explosive, see	1.1D	0048	

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Name and description	Class	UN No	Subrisk
CARTRIDGES, FLASH	1.1G	0049	
	1.3G	0050	
CARTRIDGES FOR WEAPONS with bursting charge	1.1E	0006	
	1.1F	0005	
	1.2E	0321	
	1.2F	0007	
	1.4E	0412	
	1.4F	0348	
CARTRIDGES FOR WEAPONS, BLANK	1.1C	0326	
	1.2C	0413	
	1.3C	0327	
	1.4C	0338	
	1.4S	0014	
CARTRIDGES FOR WEAPONS, INERT PROJECTILE	1.2C	0328	
	1.3C	0417	
	1.4C	0339	
	1.4S	0012	
Cartridges, illuminating, see	1.2G	0171	
	1.3G	0254	
	1.4G	0297	
CARTRIDGES, OIL WELL	1.3C	0277	
	1.4C	0278	
CARTRIDGES, POWER DEVICE	1.2C	0381	
	1.3C	0275	
	1.4C	0276	
	1.4S	0323	
CARTRIDGES, SIGNAL	1.3G	0054	
	1.4G	0312	
	1.4S	0405	
CARTRIDGES, SMALL ARMS	1.3C	0417	
	1.4C	0339	
	1.4S	0012	
CARTRIDGES, SMALL ARMS, BLANK	1.3C	0327	
	1.4C	0338	
	1.4S	0014	
Cartridges, starter, jet engine, see	1.2C	0381	
	1.3C	0275	
	1.4C	0276	
	1.4S	0323	
CASES, CARTRIDGE, EMPTY, WITH PRIMER	1.4C	0379	
	1.4S	0055	
CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.3C	0447	
	1.4C	0446	
C.E., see	1.1D	0208	
CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap	4.1	2000	

Name and description	Class	UN No	Subrisk
CELLULOID, SCRAP	4.2	2002	
CHARGES, BURSTING, PLASTICS BONDED	1.1D	0457	
	1.2D	0458	
	1.4D	0459	
	1.4S	0460	
CHARGES, DEMOLITION	1.1D	0048	
CHARGES, DEPTH	1.1D	0056	
Charges, expelling, explosive, for fire extinguishers, see	1.2C	0381	
	1.3C	0275	
	1.4C	0276	
	1.4S	0323	
CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.1D	0442	
	1.2D	0443	
	1.4D	0444	
	1.4S	0445	
CHARGES, PROPELLING	1.1C	0271	
	1.2C	0415	
	1.3C	0272	
	1.4C	0491	
CHARGES, PROPELLING, FOR CANNON	1.1C	0279	
	1.2C	0414	
	1.3C	0242	
CHARGES, SHAPED, FLEXIBLE, LINEAR	1.1D	0288	
	1.4D	0237	
CHARGES, SHAPED, without detonator	1.1D	0059	
	1.2D	0439	
	1.4D	0440	
	1.4S	0441	
CHARGES, SUPPLEMENTARY, EXPLOSIVE	1.1D	0060	
Cheddite, see	1.1D	0083	
Collodion cottons, see	1.1D	0340	
	1.1D	0341	
	1.3C	0342	
	3	2059	
	4.1	2555	
	4.1	2556	
	4.1	2557	
COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.1B	0461	
	1.2B	0382	
	1.4B	0383	
	1.4S	0384	
Composition A, see	1.1D	0483	
Composition B, see	1.1D	0118	

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Name and description	Class	UN No	Subrisk
Composition TR1, see	1.1D	0483	
CONTRIVANCES, WATER ACTIVATED with burster, expelling charge or propelling charge	1.2L 1.3L	0248 0249	
CORD, DETONATING, flexible	1.1D 1.4D	0065 0289	
CORD, DETONATING, metal clad	1.1D 1.2D	0102 0290	
CORD, DETONATING, MILD EFFECT, metal clad	1.4D	0104	
CORD, IGNITER	1.4G	0066	
Cordite, see	1.1C 1.3C	0160 0161	
CUTTERS, CABLE, EXPLOSIVE	1.4S	0070	
CYCLONITE, see	1.1D 1.1D 1.1D	0072 0391 0483	
CYCLOTETRAMETHYLENETETRANITRAMINE, DESENSITISED	1.1D	0484	
CYCLOTETRAMETHYLENETETRANITRAMINE, WETTED with not less than 15% water, by mass	1.1D	0226	
Cyclotol, see	1.1D	0084	
CYCLOTRIMETHYLENETRINITRAMINE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
CYCLOTRIMETHYLENETRINITRAMINE AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, DESENSITISED with not less than 10% phlegmatiser, by mass	1.1D	0391	
CYCLOTRIMETHYLENETRINITRAMINE AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass	1.1D	0391	
CYCLOTRIMETHYLENETRINITRAMINE, DESENSITISED	1.1D	0483	
CYCLOTRIMETHYLENETRINITRAMINE, WETTED with not less than 15% water, by mass	1.1D	0072	
DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES, N.O.S.	1.3C	0132	
Depth charge, see	1.1D	0056	
DESENSITISED EXPLOSIVE, LIQUID, N.O.S.	3	3379	
DESENSITISED EXPLOSIVE, SOLID, N.O.S.	4.1	3380	

Name and description	Class	UN No	Subrisk
Detonating cord, see	1.1D	0065	
	1.1D	0102	
	1.2D	0290	
	1.4D	0104	
	1.4D	0289	
Detonating relays, see	1.1B	0029	
	1.1B	0360	
	1.4B	0267	
	1.4B	0361	
	1.4S	0455	
	1.4S	0500	
DETONATOR ASSEMBLIES, NON ELECTRIC for blasting	1.1B	0360	
	1.4B	0361	
	1.4S	0500	
DETONATORS FOR AMMUNITION	1.1B	0073	
	1.2B	0364	
	1.4B	0365	
	1.4S	0366	
DETONATORS, ELECTRIC for blasting	1.1B	0030	
	1.4B	0255	
	1.4S	0456	
DETONATORS, NON-ELECTRIC for blasting	1.1B	0029	
	1.4B	0267	
	1.4S	0455	
DIAZODINITROPHENOL	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1.1A	0074	
DIETHYLENEGLYCOL DINITRATE, DESENSITISED with not less than 25% non-volatile, water-insoluble phlegmatiser, by mass	1.1D	0075	
DINGU, see	1.1D	0489	
DINITROGLYCOLURIL (DINGU)	1.1D	0489	
Dinitrophenates, alkali metals, dry or wetted with less than 15% water, by mass, see	1.3C	0077	6.1
Dinitrophenates, wetted with not less than 15% water, by mass, see	4.1	1321	6.1
DINITROPHENOL, dry or wetted with less than 15% water, by mass	1.1D	0076	6.1
DINITROPHENOL, WETTED with not less than 15% water, by mass	4.1	1320	6.1
DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass	1.3C	0077	6.1

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Name and description	Class	UN No	Subrisk
DINITROPHENOLATES, WETTED with not less than 15% water, by mass	4.1	1321	6.1
DINITRORESORCINOL, dry or wetted with less than 15% water, by mass	1.1D	0078	
DINITRORESORCINOL, WETTED with not less than 15% water, by mass	4.1	1322	
DINITROSOBENZENE	1.3C	0406	
Dinitrotoluene mixed with sodium chlorate, see	1.1D	0083	
DIPICRYLAMINE, see	1.1D	0079	
DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass	1.1D	0401	
DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass	4.1	2852	
Distress signals, see ARTICLES (pyrotechnic) or SIGNALS (distress)	-	-	
Distress signals, see	1.1G 1.2G 1.3G 1.3L 1.4G 1.4S 	0194 0428 0429 0195 0430 0249 0191 0431 0505 0373 0432 0506	
Dynamite, see	1.1D	0081	
Engines, rocket, see	1.2L 1.3L	0322 0250	
ETHYLENEGLYCOL DINITRATE	*Transport prohibited without Competent Authority approval.*		
EXPLOSIVE, BLASTING, TYPE A	1.1D	0081	
EXPLOSIVE, BLASTING, TYPE B	1.1D 1.5D	0082 0331	
EXPLOSIVE, BLASTING, TYPE C	1.1D	0083	
EXPLOSIVE, BLASTING, TYPE D	1.1D	0084	
EXPLOSIVE, BLASTING, TYPE E	1.1D 1.5D	0241 0332	
Explosives, emulsion, see	1.1D 1.5D	0241 0332	

Name and description	Class	UN No	Subrisk
Explosive, deflagrating, primary or secondary, see entries in Appendix 5	-	-	
Explosive, seismic, see	1.1D 1.1D 1.1D 1.5D	0081 0082 0083 0331	
Explosive, slurry, see	1.1D 1.5D	0241 0332	
Explosive, water gel, see	1.1D 1.5D	0241 0332	
FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE N.O.S.	4.1	1353	
Films, nitrocellulose base, from which gelatin has been removed; film scrap, see	4.2	2002	
FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap	4.1	1324	
Fire extinguisher charges, expelling, explosive, see	1.2C 1.3C 1.4C 1.4S	0381 0275 0276 0323	
FIREWORKS	1.1G 1.2G 1.3G 1.4G 1.4S	0333 0334 0335 0336 0337	
FLARES, AERIAL	1.1G 1.2G 1.3G 1.4G 1.4S	0420 0421 0093 0403 0404	
Flares, aeroplane, see	1.1G 1.2G 1.3G 1.4G 1.4S	0420 0421 0093 0403 0404	
Flares, hand-held, see	1.4G 1.4S	0191 0373	
Flares, highway,) see Flares, distress, small,) Flares, railway or highway,)	1.4G 1.4S	0191 0373	
FLARES, SURFACE	1.1G 1.2G 1.3G	0418 0419 0092	
Flares, water-activated, see	1.2L 1.3L	0248 0249	

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Name and description	Class	UN No	Subrisk
FLASH POWDER	1.1G	0094	
	1.3G	0305	
FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells	1.1D	0099	
FUSE, DETONATING, metal clad, see	1.1D	0290	
	1.2D	0102	
FUSE, DETONATING, MILD EFFECT, metal clad, see	1.4D	0104	
FUSE, IGNITER, tubular, metal clad	1.4G	0103	
FUSE, NON-DETONATING	1.3G	0101	
FUSE, SAFETY	1.4S	0105	
Fuze, combination, percussion or time, see	1.1B	0106	
	1.2B	0107	
	1.3G	0257	
	1.4B	0316	
	1.4G	0317	
	1.4S	0367	
	1.4S	0368	
FUZES, DETONATING	1.1B	0106	
	1.2B	0107	
	1.4B	0257	
	1.4S	0367	
FUZES, DETONATING with protective features	1.1D	0408	
	1.2D	0409	
	1.4D	0410	
FUZES, IGNITING	1.3G	0316	
	1.4G	0317	
	1.4S	0368	
Gaines, see	1.1B	0225	
	1.1D	0042	
	1.2B	0268	
	1.2D	0283	
Gelatin, blasting, see	1.1D	0081	
Gelignite, see	1.1D	0081	
Gelatin, dynamites, see	1.1D	0081	
GLYCERYL TRINITRATE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
Glyceryl trinitrate, see	1.1D	0143	
	1.1D	0144	
	3	1204	
	3	3064	

Name and description	Class	UN No	Subrisk
GRENADES, hand or rifle, with bursting charge	1.1D	0284	
	1.1F	0292	
	1.2D	0285	
	1.2F	0293	
Grenades, illuminating, see	1.2G	0171	
	1.3G	0254	
	1.4G	0297	
GRENADES, PRACTICE, hand or rifle	1.2G	0372	
	1.3G	0318	
	1.4G	0452	
	1.4S	0110	
Grenades, smoke, see	1.2G	0015	
	1.2H	0245	
	1.3G	0016	
	1.3H	0246	
	1.4G	0303	
GUANYLNITROSAMINOGUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass	1.1A	0113	
GUANYLNITROSAMINOGUANYLTETRAZENE (TETRAZENE), WETTED with not less than 30% water, or mixture of alcohol and water, by mass	1.1A	0114	
Guncotton, see	1.1D	0340	
GUNPOWDER, COMPRESSED, see	1.1D	0028	
GUNPOWDER, granular or as a meal, see	1.1D	0027	
GUNPOWDER, IN PELLETS, see	1.1D	0028	
HEXANITRODIPHENYLAMINE	1.1D	0079	
HEXANITROSTILBENE, see	1.1D	0388	
	1.1D	0389	
	1.1D	0392	
HEXOGEN, see	1.1D	0072	
	1.1D	0391	
	1.1D	0483	
HEXOLITE, dry or wetted with less than 15% water, by mass	1.1D	0118	
HEXOTOL, see	1.1D	0118	
HEXOTONAL	1.1D	0393	
HEXOTONAL, cast, see	1.1D	0393	
HEXYL, see	1.1D	0079	
HMX, see	1.1D	0226	
	1.1D	0391	
	1.1D	0484	

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Name and description	Class	UN No	Subrisk
HNS, see	1.1D 1.1D 1.1D	0388 0389 0392	
1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass	1.3C	0508	
1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, dry or wetted with not less than 20% water, by mass	4.1	3474	
IGNITERS	1.1G 1.2G 1.3G 1.4G 1.4S	0121 0314 0315 0325 0454	
ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate	4.1	2907	
ISOSORBIDE-5-MONONITRATE	4.1	3251	
JET PERFORATING GUNS, CHARGED, oil well, without detonator	1.1D 1.4D	0124 0494	
Jet Tappers, without detonator, see – CHARGES, SHAPED, without detonator	1.1D 1.2D 1.4D 1.4S	0059 0439 0440 0441	
LDNR, see - Lead 2,4-dinitroresorcinate	-	-	
LEAD AZIDE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A	0129	
LEAD 2,4-DINITRORESORCINATE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
LEAD STABINATE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
LEAD STYPHNATE (LEAD TRINITRORESORCINATE)	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		

Name and description	Class	UN No	Subrisk
LEAD STYPHNATE (LEAD TRINITRORESORCINATE), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A	0130	
LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment	9	3072	
LIFE-SAVING APPLIANCES, SELF INFLATING	9	2990	
LIGHTERS, FUSE	1.4S	0131	
Liquid Oxygen Explosive, see *LOX*	-	-	
LOX see - entry in Appendix 5	*Transport prohibited, without the approval of the Competent Authority.*		
Lyddite, see	1.1D	0154	
MANNITOL HEXANITRATE, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1.1D	0133	
5-MERCAPTOTETRAZOL-1-ACETIC ACID	1.4C	0448	
MERCURY FULMINATE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A	0135	
MINES with bursting charge	1.1D 1.1F 1.2D 1.2F	0137 0136 0138 0294	
Minol, see	1.1D	0082	
Missiles, guided, see	1.1E 1.1F 1.1J 1.2C 1.2E 1.2F 1.2J 1.3C 1.3C 1.4C	0181 0180 0397 0436 0182 0295 0398 0183 0437 0438	
Model rocket motors or model rocket propellant devices, see (see also ROCKET MOTORS)	1.3G 1.4C 1.4G 1.4S	0335 0351 0336 0337	
Multiple safety fuse igniters, see	1.4G 1.4S	0431 0432	
MUSK XYLENE, see	4.1	2956	

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Name and description	Class	UN No	Subrisk
NC, see entries for NITROCELLULOSE	-	-	
NG, see entries for NITROGLYCERIN	-	-	
5-NITROBENZOTRIAZOL	1.1D	0385	
NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass	1.1D	0340	
NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass	1.1D	0341	
NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass	4.1	3270	
NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH PLASTICIZER, WITH PIGMENT	4.1	2557	
NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH PLASTICIZER, WITHOUT PIGMENT	4.1	2557	
NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITHOUT PLASTICIZER, WITH PIGMENT	4.1	2557	
NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITHOUT PLASTICIZER, WITHOUT PIGMENT	4.1	2557	
NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass	1.3C	0343	
NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3	2059	
NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass	1.3C	0342	
NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)	4.1	2556	
NITROCELLULOSE WITH WATER (not less than 25% water, by mass)	4.1	2555	
NITROGLYCERIN	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
NITROGLYCERIN, DESENSITISED with not less than 40% non-volatile water-insoluble phlegmatiser, by mass	1.1D	0143	6.1
NITROGLYCERIN MIXTURE, DESENSITISED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass	3	3357	
NITROGLYCERIN MIXTURE, DESENSITISED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass	3	3343	

Name and description	Class	UN No	Subrisk
NITROGLYCERIN MIXTURE, DESENSITISED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass	4.1	3319	
NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin, by mass	3	3064	
NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin, by mass	1.1D	0144	
NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin, by mass	3	1204	
NITROGUANIDINE, dry or wetted with less than 20% water, by mass	1.1D	0282	
NITROGUANIDINE, WETTED with not less than 20% water, by mass	4.1	1336	
NITROMANNITE, WETTED, see	1.1D	0133	
4-NITROPHENYLHYADRAZINE, with not less than 30% water, by mass	4.1	3376	
NITROSTARCH, dry or wetted with less than 20% water, by mass	1.1D	0146	
NITROSTARCH, WETTED with not less than 20% water, by mass	4.1	1337	
5-NITROTETRAZOLE, HEAVY METAL SALTS OF	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
NITROTRIAZOLONE (NTO)	1.1D	0490	
NITRO UREA	1.1D	0147	
NTO, see	1.1D	0490	
OCTOGEN, see	1.1D 1.1D 1.1D	0226 0391 0484	
OCTOL, dry or wetted with less than 15% water, by mass, see	1.1D	0266	
OCTOLITE, dry or wetted with less than 15% water, by mass	1.1D	0266	
OCTONAL	1.1D	0496	
ORGANIC PEROXIDE TYPE B, LIQUID	5.2	3101	
ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED	5.2	3111	
ORGANIC PEROXIDE TYPE B, SOLID	5.2	3102	
ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED	5.2	3112	
OXIDIZING LIQUID, N.O.S.	5.1	3139	

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Name and description	Class	UN No	Subrisk
OXIDIZING SOLID, N.O.S.	5.1	1479	
PENTAERYTHRITE TETRANITRATE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
PENTAERYTHRITE TETRANITRATE(PENTAERYTHRITOL TETRANITRATE; PETN) with not less than 7% wax, by mass	1.1D	0411	
PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITISED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass	4.1	3344	
PENTAERYTHRITE TETRANITRATE(PENTAERYTHRITOL TETRANITRATE; PETN), WETTED with not less than 25% water, by mass, or PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), DESENSITISED, with not less than 15% phlegmatiser, by mass	1.1D	0150	
PENTAERYTHRITOL TETRANITRATE, see	1.1D 1.1D 4.1	0150 0411 3344	
PENTOLITE, dry or wetted with less than 15% water, by mass	1.1D	0151	
PETN, see	1.1D 1.1D 4.1	0150 0411 3344	
PETN/TNT, see	1.1D	0151	
PICRAMIDE, see	1.1D	0153	
PICRIC ACID, see	1.1D	0154	
PICRIC ACID, WETTED, see	4.1 4.1	1344 3364	
PICRITE, see	1.1D	0282	
PICRITE, WETTED, see	4.1	1336	
PICRYL CHLORIDE, see	1.1D	0155	
PICRYL CHLORIDE, WETTED, see	4.1	3365	
Plastic explosives , see	1.1D	0084	
Potassium chlorate mixed with mineral oil, see	1.1D	0083	
POWDER CAKE, WETTED with not less than 17% alcohol, by mass	1.1C	0433	
POWDER CAKE, WETTED with not less than 25% water, by mass	1.3C	0159	
POWDER PASTE, see	1.1C 1.3C	0433 0159	
POWDER, SMOKELESS	1.1C 1.3C	0160 0161	

Name and description	Class	UN No	Subrisk
Power devices, explosive, see	1.2C	0381	
	1.3C	0275	
	1.4C	0276	
	1.4S	0323	
PRIMERS, CAP TYPE	1.1B	0377	
	1.4B	0378	
	1.4S	0044	
Primers, small arms, see	1.4S	0044	
PRIMERS, TUBULAR	1.3G	0319	
	1.4G	0320	
	1.4S	0376	
Projectiles, illuminating, see	1.2G	0171	
	1.3G	0254	
	1.4G	0297	
PROJECTILES, inert with tracer	1.3G	0424	
	1.4G	0425	
	1.4S	0345	
PROJECTILES with burster or expelling charge	1.2D	0346	
	1.2F	0426	
	1.2G	0434	
	1.4D	0347	
	1.4F	0427	
	1.4G	0435	
PROJECTILES with bursting charge	1.1D	0168	
	1.1F	0167	
	1.2D	0169	
	1.2F	0324	
	1.4D	0344	
PROPELLANT, LIQUID	1.1C	0497	
	1.3C	0495	
PROPELLANT, SOLID	1.1C	0498	
	1.3C	0499	
	1.4C	0501	
Propellant with a single base,) see Propellant with a double base,) Propellant with a triple base,)	1.1C 1.3C	0160 0161	
RDX, see	1.1D	0072	
	1.1D	0391	
	1.1D	0483	
RELEASE DEVICES, EXPLOSIVE	1.4S	0173	
RIVETS, EXPLOSIVE	1.4S	0174	
ROCKET MOTORS	1.1C	0280	
	1.2C	0281	
	1.3C	0186	

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Name and description	Class	UN No	Subrisk
ROCKET MOTORS, LIQUID FUELLED	1.2J	0395	
	1.3J	0396	
ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1.2L	0322	
	1.3L	0250	
ROCKETS with bursting charge	1.1E	0181	
	1.1F	0180	
	1.2E	0182	
	1.2F	0295	
ROCKETS with expelling charge	1.2C	0436	
	1.3C	0437	
	1.4C	0438	
ROCKETS with inert head	1.3C	0183	
	1.2C	0502	
ROCKETS, LINE-THROWING	1.2G	0238	
	1.3G	0240	
	1.4G	0453	
ROCKETS, LIQUID FUELLED with bursting charge	1.1J	0397	
	1.2J	0398	
Safety cartridges, see	1.4S	0012	
Safety fuse, see	1.4S	0105	
SAMPLES, EXPLOSIVE, other than initiating explosive	Class 1	0190	
SEAT-BELT PRETENSIONERS	1.4G	0503	
	9	3268	
SELF-REACTIVE LIQUID TYPE B	4.1	3221	
SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED	4.1	3231	
SELF-REACTIVE SOLID TYPE B	4.1	3222	
SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED	4.1	3232	
Shaped charges, see	1.1D	0059	
	1.2D	0439	
	1.4D	0440	
	1.4S	0441	
SIGNAL DEVICES, HAND	1.4G	0191	
	1.4S	0373	
SIGNALS, DISTRESS, ship	1.1G	0194	
	1.3G	0195	
	1.4G	0505	
	1.4S	0506	
Signals, distress, ship, water-activated, see	1.3L	0249	

Name and description	Class	UN No	Subrisk
SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.1G 1.3G 1.4G 1.4S	0192 0492 0493 0193	
SIGNALS, SMOKE	1.1G 1.2G 1.3G 1.4G 1.4S	0196 0313 0487 0197 0507	
SILVER AZIDE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval.*		
SILVER PICRATE, WETTED with not less than 30% water, by mass	4.1	1347	
Snaps for bon-bon crackers, see	1.4G 1.4S	0336 0337	
Sparklers, see	1.3G 1.4G	0335 0336	
Sodium chlorate mixed with dinitrotoluene, see	1.1D	0083	
SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass	1.3C	0234	
SODIUM DINITRO-o-CRESOLATE, WETTED, with not less than 10% water, by mass	4.1	3369	
SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 15% water, by mass	4.1	1348	6.1
SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C	0235	
SODIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1	1349	
SOUNDING DEVICES, EXPLOSIVE	1.1D 1.1F 1.2D 1.2F	0374 0296 0375 0204	
Squibs, see	1.4G 1.4S	0325 0454	
Starter pistol caps, see	1.4G 1.4S	0336 0337	
Streamer cones, see	1.4S	0337	
STYPHNIC ACID, see	1.1D 1.1D	0219 0394	

Name and description	Class	UN No	Subrisk
SUBSTANCES, EVI, N.O.S., see	1.5D	0482	
SUBSTANCES, EXPLOSIVE, N.O.S.	1.1A	0473	
	1.1C	0474	
	1.1D	0475	
	1.1G	0476	
	1.1L	0357	
	1.2L	0358	
	1.3C	0477	
	1.3G	0478	
	1.3L	0359	
	1.4C	0479	
	1.4D	0480	
	1.4G	0485	
	1.4S	0481	
SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE, N.O.S.	1.5D	0482	
TETRANITROANILINE	1.1D	0207	
TETRAZENE	*Transport prohibited, when neither desensitised nor phlegmatised, without Competent Authority approval*.		
TETRAZENE, WETTED see	1.1A	0114	
TETRAZOL-1-ACETIC ACID	1.4C	0407	
1H-TETRAZOLE	1.1D	0504	
TETRYL, see	1.1D	0208	
Throwdowns, see	1.4G	0336	
	1.4S	0337	
TNT, see	1.1D	0209	
	1.1D	0388	
	1.1D	0389	
TNT, WETTED, see	4.1	1356	
	4.1	3366	
TNT mixed with aluminium, see	1.1D	0390	
Toy pistol caps, see	1.4G	0336	
	1.4S	0337	
TORPEDOES with bursting charge	1.1D	0451	
	1.1E	0329	
	1.1F	0330	
TORPEDOES, LIQUID FUELLED with inert head	1.3J	0450	
TORPEDOES, LIQUID FUELLED with or without bursting charge	1.1J	0449	
TRACERS FOR AMMUNITION	1.3G	0212	
	1.4G	0306	
TRINITROANILINE	1.1D	0153	

Name and description	Class	UN No	Subrisk
TRINITROANISOLE	1.1D	0213	
TRINITROBENZENE, dry or wetted with less than 30% water, by mass	1.1D	0214	
TRINITROBENZENE, WETTED, with not less than 10% water, by mass	4.1	3367	
TRINITROBENZENE, WETTED with not less than 30% water, by mass	4.1	1354	
TRINITROBENZENESULPHONIC ACID	1.1D	0386	
TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass	1.1D	0215	
TRINITROBENZOIC ACID, WETTED, with not less than 10% water by mass	4.1	3368	
TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass	4.1	1355	
TRINITROCHLOROBENZENE	1.1D	0155	
TRINITROCHLOROBENZENE (PICRYL CHLORIDE), WETTED, with not less than 10% water by mass	4.1	3365	
TRINITRO-m-CRESOL	1.1D	0216	
TRINITROFLUORENONE	1.1D	0387	
TRINITRONAPHTHALENE	1.1D	0217	
TRINITROPHENETOLE	1.1D	0218	
TRINITROPHENOL, dry or wetted with less than 30% water, by mass	1.1D	0154	
TRINITROPHENOL, WETTED, with not less than 10% water by mass	4.1	3364	
TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass	4.1	1344	
TRINITROPHENYLMETHYLNITRAMINE	1.1D	0208	
TRINITRORESORCINOL, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	1.1D	0219	
TRINITRORESORCINOL, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1D	0394	
TRINITROTOLUENE, dry or wetted with less than 30% water, by mass	1.1D	0209	
TRINITROTOLUENE AND HEXANITROSTILBENE MIXTURE	1.1D	0388	
TRINITROTOLUENE AND TRINITROBENZENE MIXTURE	1.1D	0388	

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Name and description	Class	UN No	Subrisk
TRINITROTOLUENE MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	1.1D	0389	
TRINITROTOLUENE, WETTED, with not less than 10% water by mass	4.1	3366	
TRINITROTOLUENE (TNT), WETTED with not less than 30% water, by mass	4.1	1356	
TRITONAL	1.1D	0390	
UREA NITRATE, dry or wetted with less than 20% water, by mass	1.1D	0220	
UREA NITRATE, WETTED with not less than 10% water, by mass	4.1	3370	
UREA NITRATE, WETTED with not less than 20% water, by mass	4.1	1357	
Warheads for guided missiles, see	1.1D 1.1F 1.2D 1.4D 1.4F	0286 0369 0287 0370 0371	
WARHEADS, ROCKET with burster or expelling charge	1.4D 1.4F	0370 0371	
WARHEADS, ROCKET with bursting charge	1.1D 1.1F 1.2D	0286 0369 0287	
WARHEADS, TORPEDO with bursting charge	1.1D	0221	
Watergels, see	1.1D 1.5D 5.1	0241 0332 3375	
ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C	0236	
ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1	1517	

APPENDIX 2
NUMERICAL LIST OF EXPLOSIVES AND RELATED GOODS

NOTE: This Appendix comprises of the Numerical List followed by three Addenda, I, II, and III.

2.1 SCOPE AND GENERAL PROVISIONS

(1) The Numerical List in this Appendix lists explosive materials and related goods. It is not exhaustive and any substance not listed is to be handled in accordance with Section 2.1(2) of this Appendix. Nothing in this Code shall apply to the transport of explosives of other than Class 1. However, when other dangerous goods are being transported with goods of Class 1, the provisions of Chapter 7 of this Code and the segregation provisions of Part 9 of the ADG Code may apply (if there is any conflict refer to the Competent Authority).

(2) Where a substance or article is specifically listed by name in the Numerical List, it must be transported in accordance with the provisions in the List, which are appropriate for that substance or article. A "generic" or "not otherwise specified" entry may be used to permit the transport of substances or articles which do not appear specifically by name in the Numerical List. Such a substance or article may be transported only after its dangerous properties have been determined. The substance or article must then be classified according to the Class definitions and test criteria and the name in the Numerical List which most appropriately describes the substance or article must be used. The classification is to be approved by the appropriate Competent Authority. Any substance or article having or suspected of having explosive characteristics must first be considered for inclusion in Class 1.

(3) Some collective entries may be of the "generic" or "not otherwise specified" type provided that this Code contains provisions ensuring safety, both by excluding extremely dangerous goods from normal transport and by covering all subsidiary risks inherent in some goods.

(4) The Numerical List does not include goods which are so dangerous that their transport is prohibited without a specific exemption or determination from the Competent Authority. These are listed in Appendix 9, but it must be recognised that the list in Appendix 9 is not exhaustive and the absence of a substance from Appendix 9 must not be interpreted that that substance may be carried without special restrictions. Inherent instability in goods may take different dangerous forms, for example, explosion, polymerization, with intense evolution of heat, or emission of toxic gases. In respect of most substances, such tendencies can be controlled by correct packing, dilution, stabilisation, addition of an inhibitor, refrigeration or other precautions.

(5) Where precautionary measures are laid down in the Numerical List in respect of a given substance or article (e.g. that it must be "stabilised" or "with x% water or phlegmatiser") such substance or article may not normally be carried when these measures have not been taken, unless the item in question is listed elsewhere (e.g. Class 1) without any indication of, or with different, precautionary measures.

1.1 Proper Shipping Name (PSN)

(1) The Proper Shipping Name is that portion of the entry most accurately describing the goods in the Numerical List, which is shown in upper-case characters (plus any numbers, Greek letters, 'sec', 'tert', and the letters m, n, o, p, which form an integral part of the name). An alternative Proper Shipping Name may be shown in brackets following the main Proper Shipping Name (such as BLACK POWDER (GUNPOWDER)). Portions of an entry appearing in lower case need not be considered as part of the Proper Shipping Name but may be used.

(2) When conjunctions such as "and" or "or" are in lower case or when segments of the name are punctuated by commas, the entire name of the entry need not necessarily be shown in the transport document or package markings.

(3) Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the Proper Shipping Name, their sequence on documentation or package markings is optional. For instance, "NITROGLYCERIN SOLUTION IN ALCOHOL"

May alternatively be shown as, "ALCOHOL SOLUTION OF NITROGLYCERIN". Commercial or military names for goods of Class 1 which contain the Proper Shipping Name supplemented by additional descriptive text may be used.

(4) Many substances have an entry for both the liquid and solid state (see definitions for liquid and solid in Section 1.2 of Chapter 1 of this Code), or for the solid and solution. These are allocated separate UN Numbers, which are not necessarily adjacent to each other. Details are provided in the alphabetical list in Appendix 1, e.g.:

PROPELLANT, LIQUID	1.3C	UN 0495
PROPELLANT, SOLID	1.3C	UN 0499

(5) When temperature control is used to stabilise such substances to prevent the development of any dangerous excess pressure, then:

(a) For liquids: where the SADT is less than or equal to 50°C, the provisions of 7.1.6 of the ADG Code shall apply;
(b) For gases: the conditions of transport shall be approved by the Competent Authority.

2.3 Generic or "Not Otherwise Specified" (N.O.S.) Names and Technical Names

(1) Generic and "not otherwise specified" Proper Shipping Names that are assigned to Special Provision 274 in Column 6 of the Numerical List shall be supplemented with the technical or chemical group names unless a national law or international convention prohibits its disclosure if it is a controlled substance. For explosives of Class 1, the dangerous goods description may be supplemented by additional descriptive text to indicate commercial or military names. Technical and chemical group names shall be entered in brackets immediately following the Proper Shipping Name. An appropriate modifier, such as "contains" or "containing" or other qualifying words such as "mixture", "solution", etc., and the percentage of the technical constituent may also be used. For example: UN 3319 NITROGLYCERIN MIXTURE, DESENSITISED, SOLID, N.O.S., *with more than 2% but not more than 10% nitroglycerin, by mass.*

(2) The technical name must be a recognised chemical or other name currently used in scientific and technical handbooks, journals and texts. Trade names must not be used for this purpose.

(3) When a mixture of dangerous goods is described by one of the "N.O.S." or "generic" entries to which Special Provision 274 has been allocated in the Numerical List, not more than the two constituents which most predominantly contribute to the hazard or hazards of a mixture need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention. If a package containing a mixture is labelled with any subsidiary risk label, one of the two technical names shown in brackets must be the name of the constituent, which compels the use of the subsidiary risk label.

2.4 Mixtures and Solutions Containing One Dangerous Substance

(1) A mixture or solution containing a dangerous substance identified by name in the Numerical List and one or more substances not subject to this Code must be treated according to the requirements given for the dangerous substance provided that the packaging is appropriate to the physical state of the mixture or solution, unless:

(a) the mixture or solution is specifically identified by name in this Code; or

(b) the entry in this Code specifically indicates that it applies only to the pure substance; or

(c) the hazard Class, physical state or packing group of the solution or mixture is different from that of the dangerous substance; or

(d) there is significant change in the measures to be taken in emergencies.

(2) For solutions and mixtures treated according to the provisions given for the dangerous substance, the qualifying word "SOLUTION" or "MIXTURE", as appropriate, must be added as part of the proper shipping name. In addition, the concentration of the solution or mixture may also be indicated.

2.5 Notes Regarding Columns

The Numerical List is divided into twelve Columns as follows:

Column 1 "**UN No.**" - this Column contains the serial number assigned to the article or substance under the United Nations system.

Column 2 "**Name and Description**" - this Column contains the proper shipping names in uppercase characters, which may be followed by additional descriptive text presented in lowercase characters. Proper shipping names may be shown in the plural where isomers of similar classification exist. Hydrates may be included under the proper shipping name for the anhydrous substance, as appropriate. Unless otherwise indicated for an entry in this Numerical List, the word "solution" in a proper shipping name means one or more named dangerous goods dissolved in a liquid.

Column 3 "**Class or Division**" - this Column contains the Class or Division and in the case of Class 1, the Compatibility Group assigned to the article or substance according to the classification system described in Chapter 2.1 of the *UN Model Regulations* as reproduced in Addendum 1 to this Appendix.

Column 4 "**Subsidiary Risk**" - this Column contains the Class or division number of any important subsidiary risks which have been identified by applying the classification system described in part 2 of the *UN Model Regulations* or the AdG Code.

As advisory information this Column also identifies a dangerous goods as a marine pollutant or a severe marine pollutant. This information is provided to explain why imported shipments will have marine pollutant labels on them and if this Code is used for intrastate sea transport. Marine Pollutants are indicated as follows:

P - Marine pollutant

PP - Severe marine pollutant

• - Marine pollutant only when containing 10% or more substance(s) identified with 'P' or 1% or more substance(s) identified with 'PP' in this Column.

Column 5 "**Packing Group**" - this Column contains the UN packing group number (i.e. I, II or III) assigned to the article or substance. If more than one packing group is indicated for the entry, the packing group of the substance or formulation to be transported must be determined, based on its properties, through application of the hazard grouping criteria as provided in Part 2 of the *UN Model Regulations* or the ADG Code.

Column 6 "**Special Provisions**" - this Column contains a number referring to any Special Provision(s) that are relevant to the article or substance as listed in Appendix 3 of this Code. Special Provisions apply to all the packing groups permitted for a particular substance or article unless the wording makes it otherwise apparent.

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Column 7 — "**Limited Quantities**" – the ADG Code allows some relaxations for limited quantities shipments. The requirements for such packages are given in Chapter 3.4 of the ADG Code. Some of the goods in the Numerical List of this Code may be packaged under these provisions. This Column provides the maximum quantity per inner packaging or article authorised for transport of the substance concerned according to the provisions for limited quantities in Chapter 3.4 of the ADG Code. The word "None" in this Column means that the article or substance is not permitted to be transported under the provisions of Chapter 3.4 of the ADG Code.

Column 8 — "**Packing Instruction**" - this Column contains alpha numeric codes which refer to the relevant packing instructions specified in Appendix 4.1. The packing instructions indicate the packaging (including iBCs and large packagings), which may be used for the transport of substances and articles.

A code including the letter "P" refers to packing instructions for the use of packagings.

A code including the letters "IBC" refers to packing instructions for the use of IBCs.

A code including the letters "LP" refers to packing instructions for the use of large packagings.

When a particular code is not provided, it means the substance is not authorised in the type of packaging that may be used according to the packing instructions bearing that code. When N/A is included in the Column it means that the substance or article need not be packaged.

Column 9 — "**Special Packing Provisions**" - this Column contains alpha numeric codes which refer to the relevant special packing provisions specified in Section 4.1.4 of the *UN Model Regulations* or the ADG Code. The special packing provisions indicate the special provisions for packaging (including IBCs and large packagings).

A special packing provision including the letters "PP" refers to special packing provision applicable to the use of packing instructions bearing the code "P" in Appendix 4.1.

A special packing provision including the letter "B" refers to special packing provision applicable to the use of packing instructions bearing the code "IBC" in Appendix 4.1.

A special packing provision including the letter "L" refers to special packing provision applicable to packing instructions bearing the code "LP" in Appendix 4.1.

Column 10 — "**Portable Tank and Bulk Containers** / **Instructions**" - this Column contains a number preceded by the letter "t" which refers to the relevant instruction in Appendix 4.2 and 4.3 specifying the tank type(s) required for the transport of the substance in portable tanks.

A "T" entry in Column 10 is also an indication that the substance may be transported in a suitable tank vehicle in accordance with Chapter 4.2 of the *UN Model Regulations*.

A code including the letters "BK" refers to types of bulk containers used for the transport of bulk goods as specified in Section 4.3.2 of the *UN Model Regulations*.

Column 11 — "**Portable Tank and Bulk Containers** / **Special Provisions**" - this Column contains a number preceded by the letters "tp" referring to any special provisions indicated in Appendix 4.2 and 4.3 that apply to the transport of the substance in portable tanks.

Column 12 — "**Properties and Observations**" - this column in some instances, provides criteria for when a substance or article is a dangerous goods and also, in some instances, allocates Packing Groups. It also sets out some useful information on properties of the substances and articles specified in Column 2 and observations relevant to dealing with those substances and articles.

2.6 Abbreviations and Symbols

The following abbreviations or symbols are used in this Numerical List and have the meanings shown:

Abbreviation	Column	Meaning
N.O.S.	2	Not otherwise specified
†	2 and 12	Entry for which there is an explanation in Appendix 5 of this code.

2.7 Classification of Dangerous Goods

Goods that are dangerous goods are assigned to a Class according to the most significant risk presented by the goods as determined by the criteria set out in the *UN Model Regulations* and in the *UN Manual of Tests and Criteria*. Those criteria for dangerous goods of Class 1 are summarised in Addendum I.

In some instances dangerous goods may also be assigned a Subsidiary Risk, if the goods present risks in addition to those denoted by the Class.

Where goods present more than one type of risk, goods are assigned to Class and Subsidiary Risk according to the precedence of hazard principles set out in the ADG Code.

The Class and Subsidiary Risk(s) (if any) of substances listed in Appendix 2 can be found, respectively, in Columns 3 and 4 of that Appendix.

In addition to the assignment of dangerous goods to a Class and Subsidiary Risk, most dangerous goods (other than dangerous goods of Class 1, 2 and 7) are assigned to Packing Groups, according to the degree of risk the goods present during transport.

NUMERICAL LIST OF EXPLOSIVES AND RELATED GOODS

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0004	AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	1.1D				NONE	P112 (a), (b) or (c)	PP26			Should be stowed away from explosives containing chlorates or perchlorates and from lead and its compounds
0005	CARTRIDGES FOR WEAPONS with bursting charge†	1.1F				NONE	P130				
0006	CARTRIDGES FOR WEAPONS with bursting charge†	1.1E				NONE	P130 LP101	PP67 L1			
0007	CARTRIDGES FOR WEAPONS with bursting charge†	1.2F				NONE	P130				
0009	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge†	1.2G				NONE	P130 LP101	PP67 L1			
0010	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge†	1.3G				NONE	P130 LP101	PP67 L1			
0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS†	1.4S				NONE	P130				
0014	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK†	1.4S				NONE	P130				
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge†	1.2G			204	NONE	P130 LP101	PP67 L1			
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge†	1.3G			204	NONE	P130 LP101	PP67 L1			
0018	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge†	1.2G	6.1 8			NONE	P130 LP101	PP67 L1			
0019	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge†	1.3G	6.1 8			NONE	P130 LP101	PP67 L1			
0020	AMMUNITION, TOXIC with burster, expelling charge or propelling charge†	1.2K	6.1		274	NONE	P101				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0021	AMMUNITION, TOXIC with burster, expelling charge or propelling charge†	1.3K	6.1		274	NONE	P101				
0027	BLACK POWDER (GUNPOWDER), granular or as a meal†	1.1D				NONE	P113	PP50			**Note**: this substance is very sensitive to sparks, electrostatic discharges and friction.
0028	BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS†	1.1D				NONE	P113	PP51			See UN 0027
0029	DETONATORS, NONELECTRIC for blasting†	1.1B				NONE	P131	PP68			
0030	DETONATORS, ELECTRIC for blasting†	1.1B				NONE	P131				
0033	BOMBS with bursting charge†	1.1F				NONE	P130				Explosive articles which are dropped from aircraft and are transported with means of initiation not containing two or more effective protective features.
0034	BOMBS with bursting charge†	1.1D				NONE	P130 LP101	PP67 L1			Explosive articles which are dropped from aircraft and are transported without means of initiation or with means of initiation containing two or more effective protective features.
0035	BOMBS with bursting charge†	1.2D				NONE	P130 LP101	PP67 L1			See UN 0034
0037	BOMBS, PHOTO-FLASH†	1.1F				NONE	P130				Explosive articles which are dropped from aircraft, to provide brief, intense illumination for photography. They contain a charge of detonating explosive with means of initiation not containing two or more effective protective features.
0038	BOMBS, PHOTO-FLASH†	1.1D				NONE	P130 LP101	PP67 L1			See UN 0037
0039	BOMBS, PHOTO-FLASH†	1.2G				NONE	P130 LP101	PP67 L1			See UN 0037
0042	BOOSTERS without detonator†	1.1D				NONE	P132 (a) or (b)				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0043	BURSTERS, explosive†	1.1D				NONE	P133	PP69			Articles consisting of a small charge of explosive, without means of initiation used to open projectiles or other ammunition in order to disperse their contents.
0044	PRIMERS, CAP TYPE†	1.4S				NONE	P133				
0048	CHARGES, DEMOLITION†	1.1D				NONE	P130 LP101	PP67 L1			
0049	CARTRIDGES, FLASH†	1.1G				NONE	P135				
0050	CARTRIDGES, FLASH†	1.3G				NONE	P135				
0054	CARTRIDGES, SIGNAL†	1.3G				NONE	P135				
0055	CASES, CARTRIDGE, EMPTY, WITH PRIMER†	1.4S				NONE	P136				
0056	CHARGES, DEPTH†	1.1D				NONE	P130 LP101	PP67 L1			
0059	CHARGES, SHAPED without detonator†	1.1D				NONE	P137	PP70			
0060	CHARGES, SUPPLEMENTARY, EXPLOSIVE†	1.1D				NONE	P132 (a) or (b)				
0065	CORD, DETONATING, flexible†	1.1D				NONE	P139	PP71 PP72			
0066	CORD, IGNITER†	1.4G				NONE	P140				
0070	CUTTERS, CABLE, EXPLOSIVE†	1.4S				NONE	P134 LP102				
0072	CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), WETTED with not less than 15% water, by mass	1.1D			266	NONE	P112 (a)	PP45			Substancee.Mass detonating explosive† which will become more sensitive if the wetting or desensitizing agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0073	DETONATORS FOR AMMUNITION†	1.1B				NONE	P133				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0074	DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1.1A			266	NONE	P110 (a) or (b)	PP42			Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0075	DIETHYLENEGLYCOL DINITRATE, DESENSITISED with not less than 25% non volatile, water-insoluble phlegmatiser, by mass	1.1D			266	NONE	P115	PP53 PP54 PP57 PP58			This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0076	DINITROPHENOL, dry or wetted with less than 15% water, by mass	1.1D	6.1			NONE	P112 (a), (b) or (c)	PP26			
0077	DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass	1.3C	6.1			NONE	P114 (a) or (b)	PP26			
0078	DINITRORESORCINOL, dry or wetted with less than 15% water, by mass	1.1D				NONE	P112 (a), (b) or (c)	PP26			
0079	HEXANITRODIPHENYLAMINE (DIPICRYLAMINE; HEXYL)	1.1D				NONE	P112 (b) or (c)				
0081	EXPLOSIVE, BLASTING, TYPE A†	1.1D				NONE	P116	PP63 PP66			
0082	EXPLOSIVE, BLASTING, TYPE B†	1.1D				NONE	P116 IBC100	PP61 PP62 PP65 B9			
0083	EXPLOSIVE, BLASTING, TYPE C†	1.1D			267	NONE	P116				
0084	EXPLOSIVE, BLASTING, TYPE D†	1.1D				NONE	P116				
0092	FLARES, SURFACE†	1.3G				NONE	P135				
0093	FLARES, AERIAL†	1.3G				NONE	P135				
0094	FLASH POWDER†	1.1G				NONE	P113	PP49			This substance is very sensitive to sparks, impact, electrostatic discharges and friction.
0099	FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells †	1.1D				NONE	P134 LP102				
0101	FUSE, NON-DETONATING†	1.3G				NONE	P140	PP74 PP75			

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0102	CORD (FUSE), DETONATING, metal clad†	1.2D				NONE	P139	PP71			Article consisting of a core of detonating explosive substance clad by a soft metal tube with or without protective covering.
0103	FUSE, IGNITER, tubular, metal clad†	1.4G				NONE	P140				
0104	CORD (FUSE), DETONATING, MILD EFFECT, metal clad†	1.4D				NONE	P139	PP71			Article consisting of a core of detonating explosive substance clad by a soft metal tube with or without protective covering. The quantity of explosive is so small that only a mild effect is manifested outside the cord.
0105	FUSE, SAFETY†	1.4S				NONE	P140	PP73			
0106	FUZES, DETONATING†	1.1B				NONE	P141				
0107	FUZES, DETONATING†	1.2B				NONE	P141				
0110	GRENADES, PRACTICE, hand or rifle†	1.4S				NONE	P141				
0113	GUANYL NITROSAMINO GUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass	1.1A			266	NONE	P110 (a) or (b)	PP42			Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0114	GUANYL NITROSAMINO GUANYLTETRAZENE (TETRAZENE), WETTED with not less than 30% water, or mixture of alcohol and water, by mass	1.1A			266	NONE	P110 (a) or (b)	PP42			See UN 0113
0118	HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				Hexolite consists of an intimate mixture of cyclotrimethylenetrinitramine (RDX) and trinitrotoluene (TNT). The term includes Composition B.
0121	IGNITERS†	1.1G				NONE	P142				
0124	JET PERFORATING GUNS, CHARGED, oil well, without detonator†	1.1D				NONE	P101				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0129	LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A			266	NONE	P110 (a) or (b)	PP42			Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority. Metal receptacles shall not be made from copper or alloys containing copper
0130	LEAD STYPHNATE (LEAD TRINITRORESORCINATE), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A			266	NONE	P110 (a) or (b)	PP42			Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0131	LIGHTERS, FUSE†	1.4S				NONE	P142				
0132	DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES, N.O.S.	1.3C				NONE	P114 (a) or (b)	PP26			
0133	MANNITOL HEXANITRATE (NITROMANNITE), WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1.1D			266	NONE	P112 (a)				This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0135	MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A			266	NONE	P110 (a) or (b)	PP42			Sensitive substance used in detonators which will become extremely sensitive if it loses its wetting or desensitising agent. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0136	MINES with bursting charge†	1.1F				NONE	P130				
0137	MINES with bursting charge†	1.1D				NONE	P130 LP101	PP67 L1			
0138	MINES with bursting charge†	1.2D				NONE	P130 LP101	PP67 L1			

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0143	NITROGLYCERIN, DESENSITISED with not less than 40% non-volatile water insoluble phlegmatiser, by mass	1.1D	6.1		266 271	NONE	P115	PP53 PP54 PP57 PP58			Substance. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0144	NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin	1.1D				NONE	P115	PP45 PP55 PP56 PP59 PP60			
0146	NITROSTARCH, dry or wetted with less than 20% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				
0147	NITRO UREA	1.1D				NONE	P112 (b)				
0150	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), WETTED with not less than 25% water, by mass, or PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), DESENSITISED with not less than 15% phlegmatiser, by mass	1.1D			266	NONE	P112 (a) or (b)				Substance. Mass detonating explosive † which will become more sensitive if it loses its wetting or desensitizing agent. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0151	PENTOLITE, dry or wetted with less than 15% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				Pentolite consists of an intimate pourable mixture of pentaerythrite tetranitrate (PETN) and trinitrotoluene (TNT).
0153	TRINITROANILINE (PICRAMIDE)	1.1D				NONE	P112 (b) or (c)				
0154	TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass	1.1D				NONE	P112 (a), (b) or (c)	PP26			
0155	TRINITROCHLOROBENZE-NE (PICRYL CHLORIDE)	1.1D				NONE	P112 (b) or (c)				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0159	POWDER CAKE (POWDER PASTE), WETTED with not less than 25% water, by mass†	1.3C			266	NONE	P111	PP43			Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerin or other liquid organic nitrates or a mixture of these. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0160	POWDER, SMOKELESS†	1.1C				NONE	P114 (b)	PP50 PP52			
0161	POWDER, SMOKELESS†	1.3C				NONE	P114 (b)	PP50 PP52			
0167	PROJECTILES with bursting charge†	1.1F				NONE	P130				
0168	PROJECTILES with bursting charge†	1.1D				NONE	P130 LP101	PP67 L1			
0169	PROJECTILES with bursting charge†	1.2D				NONE	P130 LP101	PP67 L1			
0171	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge†	1.2G				NONE	P130 LP101	PP67 L1			
0173	RELEASE DEVICES, EXPLOSIVE†	1.4S				NONE	P134 LP102				
0174	RIVETS, EXPLOSIVE	1.4S				NONE	P134 LP102				
0180	ROCKETS with bursting charge†	1.1F				NONE	P130				
0181	ROCKETS with bursting charge†	1.1E				NONE	P130 LP101	PP67 L1			
0182	ROCKETS with bursting charge†	1.2E				NONE	P130 LP101	PP67 L1			
0183	ROCKETS with inert head†	1.3C				NONE	P130 LP101	PP67 L1			
0186	ROCKET MOTORS†	1.3C				NONE	P130 LP101	PP67 L1			
0190	SAMPLES, EXPLOSIVE, other than initiating explosive†				16 274	NONE	P101				Substance or article. Division and Compatibility Group as classified by the Competent Authority.
0191	SIGNAL DEVICES, HAND†	1.4G				NONE	P135				
0192	SIGNALS, RAILWAY TRACK, EXPLOSIVE†	1.1G				NONE	P135				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0193	SIGNALS, RAILWAY TRACK, EXPLOSIVE†	1.4S				NONE	P135				
0194	SIGNALS, DISTRESS, ship†	1.1G				NONE	P135				
0195	SIGNALS, DISTRESS, ship†	1.3G				NONE	P135				
0196	SIGNALS, SMOKE†	1.1G				NONE	P135				
0197	SIGNALS, SMOKE†	1.4G				NONE	P135				
0204	SOUNDING DEVICES, EXPLOSIVE†	1.2F				NONE	P134 LP102				
0207	TETRANITROANILINE	1.1D				NONE	P112 (b) or (c)				
0208	TRINITROPHENYL-METHYLNITRAMINE (TETRYL)	1.1D				NONE	P112 (b) or (c)				Substance. Mass detonating explosive. †
0209	TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass	1.1D				NONE	P112 (b) or (c)	PP46			
0212	TRACERS FOR AMMUNITION	1.3G				NONE	P133	PP69			See glossary of terms in Appendix 5
0213	TRINITROANISOLE	1.1D				NONE	P112 (b) or (c)				
0214	TRINITROBENZENE, dry or wetted with less than 30% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				
0215	TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				
0216	TRINITRO-m-CRESOL	1.1D				NONE	P112 (b) or (c)	PP26			
0217	TRINITRO-NAPHTHALENE	1.1D				NONE	P112 (b) or (c)				
0218	TRINITROPHENETOLE†	1.1D				NONE	P112 (b) or (c)				
0219	TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	1.1D				NONE	P112 (a), (b) or (c)	PP26			For TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water or mixture of alcohol and water, by mass see UN No. 0394 in this Class.
0220	UREA NITRATE, dry or wetted with less than 20% water, by mass†	1.1D				NONE	P112 (a), (b) or (c)				
0221	WARHEADS, TORPEDO with bursting charge	1.1D				NONE	P130 LP101	PP67 L1			See glossary of terms in Appendix 5

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0222	AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	1.1D				NONE	P112 (b) or (c)	PP47			
0224	BARIUM AZIDE, dry or wetted with less than 50% water, by mass	1.1A	6.1			NONE	P110 (a) or (b)	PP42			Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority. Metal receptacles shall not be made from copper or alloys containing copper.
0225	BOOSTERS WITH DETONATOR†	1.1B				NONE	P133	PP69			
0226	CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), WETTED with not less than 15% water, by mass	1.1D			266	NONE	P112 (a)	PP45			Mass detonating explosive † substance. that will become more sensitive if the wetting or desensitizing agent is lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0234	SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass	1.3C	P			NONE	P114 (a) or (b)	PP26			
0235	SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C				NONE	P114 (a) or (b)	PP26			
0236	ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C				NONE	P114 (a) or (b)	PP26			
0237	CHARGES, SHAPED, FLEXIBLE, LINEAR†	1.4D				NONE	P138				
0238	ROCKETS, LINE-THROWING†	1.2G				NONE	P130				
0240	ROCKETS, LINE-THROWING†	1.3G				NONE	P130				
0241	EXPLOSIVE, BLASTING, TYPE E†	1.1D				NONE	P116 IBC100	PP61 PP62 PP65 B10			

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0242	CHARGES, PROPELLING, FOR CANNON†	1.3C				NONE	P130				
0243	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge†	1.2H				NONE	P130 LP101	PP67 L1			White phosphorus ignites spontaneously on exposure to air and any spillage must be submerged under water.
0244	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge†	1.3H				NONE	P130 LP101	PP67 L1			See UN0243
0245	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge†	1.2H				NONE	P130 LP101	PP67 L1			
0246	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge†	1.3H				NONE	P130 LP101	PP67 L1			
0247	AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge†	1.3J				NONE	P101				
0248	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge†	1.2L			274	NONE	P144	PP77			
0249	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge†	1.3L			274	NONE	P144	PP77			
0250	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge†	1.3L				NONE	P101				Articles containing a liquid fuel and a liquid oxidiser, with or without expelling charge. They are designed to propel a rocket or a guided missile.
0254	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge†	1.3G				NONE	P130 LP101	PP67 L1			
0255	DETONATORS, ELECTRIC for blasting†	1.4B				NONE	P131				
0257	FUZES, DETONATING†	1.4B				NONE	P141				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0266	OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				Octonal consists of an intimate mixture of c yclotetramethylenetetranitramine (HMX), trinitrotoluene (TNT) and aluminium.
0267	DETONATORS, NONELECTRIC for blasting†	1.4B				NONE	P131	PP68			
0268	BOOSTERS WITH DETONATOR†	1.2B				NONE	P133	PP69			
0271	CHARGES, PROPELLING†	1.1C				NONE	P143	PP76			
0272	CHARGES, PROPELLING†	1.3C				NONE	P143	PP76			
0275	CARTRIDGES, POWER DEVICE†	1.3C				NONE	P134 LP102				
0276	CARTRIDGES, POWER DEVICE†	1.4C				NONE	P134 LP102				
0277	CARTRIDGES, OIL WELL†	1.3C				NONE	P134 LP102				
0278	CARTRIDGES, OIL WELL†	1.4C				NONE	P134 LP102				
0279	CHARGES, PROPELLING, FOR CANNON†	1.1C				NONE	P130				
0280	ROCKET MOTORS†	1.1C				NONE	P130 LP101	PP67 L1			
0281	ROCKET MOTORS†	1.2C				NONE	P130 LP101	PP67 L1			
0282	NITROGUANIDINE (PICRITE), dry or wetted with less than 20% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				
0283	BOOSTERS without detonator†	1.2D				NONE	P132 (a) or (b)				
0284	GRENADES, hand or rifle, with bursting charge†	1.1D				NONE	P141				
0285	GRENADES, hand or rifle, with bursting charge†	1.2D				NONE	P141				
0286	WARHEADS, ROCKET with bursting charge†	1.1D				NONE	P130 LP101	PP67 L1			
0287	WARHEADS, ROCKET with bursting charge†	1.2D				NONE	P10 LP101	PP67 L1			
0288	CHARGES, SHAPED, FLEXIBLE, LINEAR†	1.1D				NONE	P138				
0289	CORD, DETONATING, flexible†	1.4D				NONE	P139	PP71 PP72			

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0290	CORD (FUSE), DETONATING, metal clad†	1.1D				NONE	P139	PP71			Article consisting of a core of detonating explosive † substance clad by a soft metal tube with or without protective covering.
0291	BOMBS with bursting charge†	1.2F				NONE	P130				Explosive articles which are dropped from aircraft and are transported without means of initiation or with means of initiation containing two or more effective protective features.
0292	GRENADES, hand or rifle, with bursting charge†	1.1F				NONE	P141				
0293	GRENADES, hand or rifle, with bursting charge†	1.2F				NONE	P141				
0294	MINES with bursting charge†	1.2F				NONE	P130				
0295	ROCKETS with bursting charge†	1.2F				NONE	P130				
0296	SOUNDING DEVICES, EXPLOSIVE†	1.1F				NONE	P134 LP102				
0297	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge†	1.4G				NONE	P130 LP101	PP67 L1			
0299	BOMBS, PHOTO-FLASH†	1.3G				NONE	P130 LP101	PP67 L1			Explosive articles which are dropped from aircraft, to provide brief, intense illumination for photography. They contain a charge of detonating explosive with means of initiation not containing two or more effective protective features.
0300	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge†	1.4G				NONE	P130 LP101	PP67 L1			
0301	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge†	1.4G	6.1 8			NONE	P130 LP101	PP67 L1			
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge†	1.4G			204	NONE	P130 LP101	PP67 L1			
0305	FLASH POWDER†	1.3G				NONE	P113	PP49			This substance is very sensitive to sparks, impact, electrostatic discharges and friction.
0306	TRACERS FOR AMMUNITION†	1.4G				NONE	P133	PP69			
0312	CARTRIDGES, SIGNAL†	1.4G				NONE	P135				
0313	SIGNALS, SMOKE†	1.2G				NONE	P135				

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							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0314	IGNITERS†	1.2G				NONE	P142				
0315	IGNITERS†	1.3G				NONE	P142				
0316	FUZES, IGNITING†	1.3G				NONE	P141				
0317	FUZES, IGNITING†	1.4G				NONE	P141				
0318	GRENADES, PRACTICE, hand or rifle†	1.3G				NONE	P141				
0319	PRIMERS, TUBULAR†	1.3G				NONE	P133				
0320	PRIMERS, TUBULAR†	1.4G				NONE	P133				
0321	CARTRIDGES FOR WEAPONS with bursting charge†	1.2E				NONE	P130 LP101	PP67 L1			
0322	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge†	1.2L				NONE	P101				Articles containing a liquid fuel and a liquid oxidiser, with or without expelling charge. They are designed to propel a rocket or a guided missile.
0323	CARTRIDGES, POWER DEVICE†	1.4S				NONE	P134 LP102				
0324	PROJECTILES with bursting charge†	1.2F				NONE	P130				
0325	IGNITERS†	1.4G				NONE	P142				
0326	CARTRIDGES FOR WEAPONS, BLANK†	1.1C				NONE	P130				
0327	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK†	1.3C				NONE	P130				
0328	CARTRIDGES FOR WEAPONS, INERT PROJECTILE†	1.2C				NONE	P130 LP101	PP67 L1			
0329	TORPEDOES with bursting charge†	1.1E				NONE	P130 LP101	PP67 L1			
0330	TORPEDOES with bursting charge†	1.1F				NONE	P130				
0331	EXPLOSIVE, BLASTING, TYPE B† (AGENT, BLASTING, TYPE B)	1.5D				NONE	P116 IBC100	PP61 PP62 PP64 PP65	T1	TP1 TP17 TP32	

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							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0332	EXPLOSIVE, BLASTING, TYPE E† (AGENT, BLASTING, TYPE E)	1.5D				NONE	P116 IBC100	PP61 PP62 PP65	T1	TP1 TP17 TP32	
0333	FIREWORKS†	1.1G				NONE	P135				
0334	FIREWORKS†	1.2G				NONE	P135				
0335	FIREWORKS†	1.3G				NONE	P135				
0336	FIREWORKS†	1.4G				NONE	P135				
0337	FIREWORKS†	1.4S				NONE	P135				
0338	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK†	1.4C				NONE	P130				
0339	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS†	1.4C				NONE	P130				
0340	NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass	1.1D				NONE	P112 (a) or (b)				
0341	NITROCELLULOSE, unmodified or plasticised with less than 18% plasticising substance, by mass	1.1D				NONE	P112 (b)				
0342	NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass	1.3C			105	NONE	P114 (a)	PP43			
0343	NITROCELLULOSE, PLASTICISED with not less than 18% plasticising substance, by mass	1.3C			105	NONE	P111				
0344	PROJECTILES with bursting charge †	1.4D				NONE	P130 LP101	PP67 L1			
0345	PROJECTILES, inert with tracer†	1.4S				NONE	P130 LP101	PP67 L1			
0346	PROJECTILES with burster or expelling charge†	1.2D				NONE	P130 LP101	PP67 L1			
0347	PROJECTILES with burster or expelling charge†	1.4D				NONE	P130 LP101	PP67 L1			
0348	CARTRIDGES FOR WEAPONS with bursting charge†	1.4F				NONE	P130				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0349	ARTICLES, EXPLOSIVE, N.O.S.	1.4S			178 274	NONE	P101				
0350	ARTICLES, EXPLOSIVE, N.O.S.	1.4B			178 274	NONE	P101				
0351	ARTICLES, EXPLOSIVE, N.O.S.	1.4C			178 274	NONE	P101				
0352	ARTICLES, EXPLOSIVE, N.O.S.	1.4D			178 274	NONE	P101				
0353	ARTICLES, EXPLOSIVE, N.O.S.	1.4G			178 274	NONE	P101				
0354	ARTICLES, EXPLOSIVE, N.O.S.	1.1L			178 274	NONE	P101				
0355	ARTICLES, EXPLOSIVE, N.O.S.	1.2L			178 274	NONE	P101				
0356	ARTICLES, EXPLOSIVE, N.O.S.	1.3L			178 274	NONE	P101				
0357	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1L			178 274	NONE	P101				
0358	SUBSTANCES, EXPLOSIVE, N.O.S.	1.2L			178 274	NONE	P101				
0359	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3L			178 274	NONE	P101				
0360	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting†	1.1B				NONE	P131				
0361	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting†	1.4B				NONE	P131				
0362	AMMUNITION, PRACTICE†	1.4G				NONE	P130 LP101	PP67 L1			
0363	AMMUNITION, PROOF†	1.4G				NONE	P130 LP101	PP67 L1			
0364	DETONATORS FOR AMMUNITION†	1.2B				NONE	P133				
0365	DETONATORS FOR AMMUNITION†	1.4B				NONE	P133				
0366	DETONATORS FOR AMMUNITION†	1.4S				NONE	P133				
0367	FUZES, DETONATING†	1.4S				NONE	P141				
0368	FUZES, IGNITING†	1.4S				NONE	P141				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0369	WARHEADS, ROCKET with bursting charge†	1.1F				NONE	P130				
0370	WARHEADS, ROCKET with burster or expelling charge†	1.4D				NONE	P130 LP101	PP67 L1			
0371	WARHEADS, ROCKET with burster or expelling charge†	1.4F				NONE	P130				
0372	GRENADES, PRACTICE, hand or rifle†	1.2G				NONE	P141				
0373	SIGNAL DEVICES, HAND†	1.4S				NONE	P135				
0374	SOUNDING DEVICES, EXPLOSIVE†	1.1D				NONE	P134 LP102				
0375	SOUNDING DEVICES, EXPLOSIVE†	1.2D				NONE	P134 LP102				
0376	PRIMERS, TUBULAR†	1.4S				NONE	P133				
0377	PRIMERS, CAP TYPE†	1.1B				NONE	P133				
0378	PRIMERS, CAP TYPE†	1.4B				NONE	P133				
0379	CASES, CARTRIDGE, EMPTY, WITH PRIMER†	1.4C				NONE	P136				
0380	ARTICLES, PYROPHORIC†	1.2L				NONE	P101				
0381	CARTRIDGES, POWER DEVICE†	1.2C				NONE	P134 LP102				
0382	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.†	1.2B			178 274	NONE	P101				
0383	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.†	1.4B			178 274	NONE	P101				
0384	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.†	1.4S			178 274	NONE	P101				
0385	5-NITROBENZOTRIAZOL	1.1D				NONE	P112 (b) or (c)				
0386	TRINITROBENZENESULPHONIC ACID	1.1D				NONE	P112 (b) or (c)	PP26			
0387	TRINITROFLUORENONE	1.1D				NONE	P112 (b) or (c)				
0388	TRINITROTOLUENE (TNT) AND TRINITROBENZENE MIXTURE or TRINITROTOLUENE (TNT) AND HEXANITROSTILBENE MIXTURE	1.1D				NONE	P112 (b) or (c)				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0389	TRINITROTOLUENE (TNT) MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	1.1D				NONE	P112 (b) or (c)				
0390	TRITONAL	1.1D				NONE	P112 (b) or (c)				TRITONAL is a substance consisting of trinitrotoluene (TNT) mixed with aluminium.
0391	CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN) MIXTURE, WETTED with not less than 15% water, by mass or CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN) MIXTURE, DESENSITISED with not less than 10% phlegmatiser, by mass	1.1D			266	NONE	P112 (b) or (c)				Substance. Mass detonating explosive † which will become more sensitive if the wetting or desensitizing agents are lost. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0392	HEXANITROSTILBENE	1.1D				NONE	P112 (b) or (c)				A mass detonating explosive † used as an additive to cast TNT to improve crystalline structure.
0393	HEXOTONAL	1.1D				NONE	P112 (b)				Hexotonal consists of an intimate mixture of cyclotrimethylenetrinitramine (RDX), trinitrotoluene (TNT) and aluminium
0394	TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1D				NONE	P112 (a)	PP26			For TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water or mixture of alcohol and water, by mass see UN No. 0219 in this Class.
0395	ROCKET MOTORS, LIQUID FUELLED†	1.2J				NONE	P101				
0396	ROCKET MOTORS, LIQUID FUELLED†	1.3J				NONE	P101				
0397	ROCKETS, LIQUID FUELLED with bursting charge†	1.1J				NONE	P101				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0398	ROCKETS, LIQUID FUELLED with bursting charge†	1.2J				NONE	P101				
0399	BOMBS WITH FLAMMABLE LIQUID with bursting charge†	1.1J				NONE	P101				Articles which are dropped from aircraft, consisting of a tank filled with flammable liquid and an explosive bursting charge.
0400	BOMBS WITH FLAMMABLE LIQUID with bursting charge†	1.2J				NONE	P101				Articles which are dropped from aircraft, consisting of a tank filled with flammable liquid and an explosive bursting charge.
0401	DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass	1.1D				NONE	P112 (a), (b) or (c)				
0402	AMMONIUM PERCHLORATE	1.1D			152	NONE	P112 (b) or (c)				White crystals or powder. Soluble in water. When heated, decomposes readily, even with explosion, evolving toxic fumes. Forms highly explosive mixtures with combustible material or powdered metals. These mixtures are sensitive to friction and are liable to ignite.
0403	FLARES, AERIAL†	1.4G				NONE	P135				
0404	FLARES, AERIAL†	1.4S				NONE	P135				
0405	CARTRIDGES, SIGNAL†	1.4S				NONE	P135				
0406	DINITROSOBENZENE	1.3C				NONE	P114 (b)				
0407	TETRAZOL-1-ACETIC ACID†	1.4C				NONE	P114 (b)				
0408	FUZES, DETONATING with protective features†	1.1D				NONE	P141				
0409	FUZES, DETONATING with protective features†	1.2D				NONE	P141				
0410	FUZES, DETONATING with protective features†	1.4D				NONE	P141				
0411	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) with not less than 7% wax, by mass	1.1D			131	NONE	P112 (b) or (c)				
0412	CARTRIDGES FOR WEAPONS with bursting charge†	1.4E				NONE	P130 LP101	PP67 L1			
0413	CARTRIDGES FOR WEAPONS, BLANK†	1.2C				NONE	P130				

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0414	CHARGES, PROPELLING, FOR CANNON†	1.2C				NONE	P130				
0415	CHARGES, PROPELLING†	1.2C				NONE	P143	PP76			
0417	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS†	1.3C				NONE	P130				
0418	FLARES, SURFACE†	1.1G				NONE	P135				
0419	FLARES, SURFACE†	1.2G				NONE	P135				
0420	FLARES, AERIAL†	1.1G				NONE	P135				
0421	FLARES, AERIAL†	1.2G				NONE	P135				
0424	PROJECTILES, inert with tracer†	1.3G				NONE	P130 LP101	PP67 L1			
0425	PROJECTILES, inert with tracer†	1.4G				NONE	P130 LP101	PP67 L1			
0426	PROJECTILES with burster or expelling charge†	1.2F				NONE	P130				
0427	PROJECTILES with burster or expelling charge†	1.4F				NONE	P130				
0428	ARTICLES, PYROTECHNIC for technical purposes†	1.1G				NONE	P135				
0429	ARTICLES, PYROTECHNIC for technical purposes†	1.2G				NONE	P135				
0430	ARTICLES, PYROTECHNIC for technical purposes†	1.3G				NONE	P135				
0431	ARTICLES, PYROTECHNIC for technical purposes†	1.4G				NONE	P135				
0432	ARTICLES, PYROTECHNIC for technical purposes†	1.4S				NONE	P135				
0433	POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass†	1.1C			266	NONE	P111				Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerin or other liquid organic nitrates or a mixture of these. This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
0434	PROJECTILES with burster or expelling charge†	1.2G				NONE	P130 LP101	PP67 L1			

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0435	PROJECTILES with burster or expelling charge†	1.4G				NONE	P130 LP101	PP67 L1			
0436	ROCKETS with expelling charge†	1.2C				NONE	P130 LP101	PP67 L1			
0437	ROCKETS with expelling charge†	1.3C				NONE	P130 LP101	PP67 L1			
0438	ROCKETS with expelling charge†	1.4C				NONE	P130 LP101	PP67 L1			
0439	CHARGES, SHAPED, without detonator†	1.2D				NONE	P137	PP70			
0440	CHARGES, SHAPED, without detonator†	1.4D				NONE	P137	PP70			
0441	CHARGES, SHAPED, without detonator†	1.4S				NONE	P137	PP70			
0442	CHARGES, EXPLOSIVE, COMMERCIAL without detonator†	1.1D				NONE	P137				
0443	CHARGES, EXPLOSIVE, COMMERCIAL without detonator†	1.2D				NONE	P137				
0444	CHARGES, EXPLOSIVE, COMMERCIAL without detonator†	1.4D				NONE	P137				
0445	CHARGES, EXPLOSIVE, COMMERCIAL without detonator†	1.4S				NONE	P137				
0446	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER†	1.4C				NONE	P136				
0447	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER†	1.3C				NONE	P136				
0448	5-MERCAPTOTETRAZOL-1-ACETIC ACID	1.4C				NONE	P114 (b)				
0449	TORPEDOES, LIQUID FUELLED with or without bursting charge†	1.1J				NONE	P101				
0450	TORPEDOES, LIQUID FUELLED with inert head†	1.3J				NONE	P101				
0451	TORPEDOES with bursting charge†	1.1D				NONE	P130 LP101	PP67 L1			

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0452	GRENADES, PRACTICE, hand or rifle†	1.4G				NONE	P141				
0453	ROCKETS, LINE-THROWING†	1.4G				NONE	P130				
0454	IGNITERS†	1.4S				NONE	P142				
0455	DETONATORS, NONELECTRIC for blasting†	1.4S				NONE	P131	PP68			
0456	DETONATORS, ELECTRIC for blasting†	1.4S				NONE	P131				See glossary of terms in Appendix 5
0457	CHARGES, BURSTING, PLASTICS BONDED	1.1D				NONE	P130				Articles consisting of a charge of detonating explosive, plastics-bonded, manufactured in a specific form without a casing and without means of initiation. They are designed as components of ammunition such as warheads.
0458	CHARGES, BURSTING, PLASTICS BONDED	1.2D				NONE	P130				Articles consisting of a charge of detonating explosive, plastics-bonded, manufactured in a specific form without a casing and without means of initiation. They are designed as components of ammunition such as warheads.
0459	CHARGES, BURSTING, PLASTICS BONDED	1.4D				NONE	P130				Articles consisting of a charge of detonating explosive, plastics-bonded, manufactured in a specific form without a casing and without means of initiation. They are designed as components of ammunition such as warheads.
0460	CHARGES, BURSTING, PLASTICS BONDED	1.4S				NONE	P130				Articles consisting of a charge of detonating explosive, plastics-bonded, manufactured in a specific form without a casing and without means of initiation. They are designed as components of ammunition such as warheads.
0461	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.†	1.1B			178 274	NONE	P101				
0462	ARTICLES, EXPLOSIVE, N.O.S.	1.1C			178 274	NONE	P101				
0463	ARTICLES, EXPLOSIVE, N.O.S.	1.1D			178 274	NONE	P101				
0464	ARTICLES, EXPLOSIVE, N.O.S.	1.1E			178 274	NONE	P101				

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							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0465	ARTICLES, EXPLOSIVE, N.O.S.	1.1F			178 274	NONE	P101				
0466	ARTICLES, EXPLOSIVE, N.O.S.	1.2C			178 274	NONE	P101				
0467	ARTICLES, EXPLOSIVE, N.O.S.	1.2D			178 274	NONE	P101				
0468	ARTICLES, EXPLOSIVE, N.O.S.	1.2E			178 274	NONE	P101				
0469	ARTICLES, EXPLOSIVE, N.O.S.	1.2F			178 274	NONE	P101				
0470	ARTICLES, EXPLOSIVE, N.O.S.	1.3C			178 274	NONE	P101				
0471	ARTICLES, EXPLOSIVE, N.O.S.	1.4E			178 274	NONE	P101				
0472	ARTICLES, EXPLOSIVE, N.O.S.	1.4F			178 274	NONE	P101				
0473	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1A			178 274	NONE	P101				
0474	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1C			178 274	NONE	P101				
0475	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1D			178 274	NONE	P101				
0476	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1G			178 274	NONE	P101				
0477	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3C			178 274	NONE	P101				
0478	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3G			178 274	NONE	P101				
0479	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4C			178 274	NONE	P101				
0480	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4D			178 274	NONE	P101				
0481	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4S			178 274	NONE	P101				
0482	SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.†	1.5D			178 274	NONE	P101				
0483	CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), DESENSITISED	1.1D				NONE	P112 (b) or (c)				Mass detonating explosive † substance which will become more sensitive if the wetting or desensitizing agents are lost.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0484	CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), DESENSITISED	1.1D				NONE	P112 (b) or (c)				Mass detonating explosive †substance which will become more sensitive if the wetting or desensitizing agents are lost.
0485	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4G			178 274	NONE	P101				
0486	ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)†	1.6N				NONE	P101				
0487	SIGNALS, SMOKE†	1.3G				NONE	P135				
0488	AMMUNITION, PRACTICE†	1.3G				NONE	P130 LP101	PP67 L1			AMMUNITION, PRACTICE is ammunition without a main bursting charge, containing a burster or expelling charge. Normally it also contains a fuze and a propelling charge. GRENADES, PRACTICE are listed separately.
0489	DINITROGLYCOLURIL (DINGU)	1.1D				NONE	P112 (b) or (c)				
0490	NITROTRIAZOLONE (NTO)†	1.1D				NONE	P112 (b) or (c)				
0491	CHARGES, PROPELLING†	1.4C				NONE	P143	PP76			
0492	SIGNALS, RAILWAY TRACK, EXPLOSIVE†	1.3G				NONE	P135				
0493	SIGNALS, RAILWAY TRACK, EXPLOSIVE†	1.4G				NONE	P135				
0494	JET PERFORATING GUNS, CHARGED, oil well, without detonator†	1.4D				NONE	P101				
0495	PROPELLANT, LIQUID†	1.3C			224	NONE	P115	PP53 PP54 PP57 PP58			Substances consisting of a deflagrating liquid explosive used for propulsion.
0496	OCTONAL	1.1D				NONE	P112 (b) or (c)				Octonal consists of an intimate mixture of cyclotetramethylenetetranitramine HMX), trinitrotoluene (TNT) and aluminium.
0497	PROPELLANT, LIQUID†	1.1C			224	NONE	P115	PP53 PP54 PP57 PP58			Substances consisting of a deflagrating liquid explosive used for propulsion.
0498	PROPELLANT, SOLID†	1.1C				NONE	P114 (b)				Substances consisting of a deflagrating solid explosive used for propulsion.

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0499	PROPELLANT, SOLID†	1.3C				NONE	P114 (b)				See UN 0498
0500	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting†	1.4S				NONE	P131				
0501	PROPELLANT, SOLID†	1.4C				NONE	P114 (b)				See UN 0498
0502	ROCKETS with inert head†	1.2C				NONE	P130 LP101	PP67 L1			
0503	AIR BAG INFLATORS, or AIR BAG MODULES, or SEAT BELT PRETENSIONERS†	1.4G			235 289	NONE	P135				See glossary of terms in Appendix 5
0504	1H-TETRAZOLE	1.1D				NONE	P112 (c)	PP48			
0505	SIGNALS DISTRESS, ship†	1.4G				NONE	P135				
0506	SIGNALS DISTRESS, ship†	1.4S				NONE	P135				
0507	SIGNAL, SMOKE†	1.4S				NONE	P135				
0508	1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass	1.3C				NONE	P114(b)	PP48			
1204	NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin, by mass	3	•	II		1L	P001 IBC02	PP5			
1310	AMONIUM PICRATE, WETTED with not less than 10% water, by mass	4.1		I	28	NONE	P406	PP26			
1320	DINITROPHENOL, WETTED with not less than 15% water, by mass	4.1	6.1	I	28	NONE	P406	PP26			
1321	DINITROPHENOLATES, WETTED with not less than 15% water, by mass	4.1	6.1 P	I	28	NONE	P406	PP26			Desensitised explosive. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Toxic if swallowed, by skin contact or by inhalation.
1322	DINITRORESORCINOL, WETTED with not less than 15% water, by mass	4.1		I	28	NONE	P406	PP26			Desensitised explosive. Explosive when dry. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.
1324	FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap	4.1		III		1kg	P002	PP15			Ignites readily. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1336	NITROGUANIDINE (PICRITE), WETTED with not less than 20% water, by mass	4.1		I	28	NONE	P406				Desensitised explosive. White solid. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals or their salts.
1337	NITROSTARCH, WETTED with not less than 20% water, by mass	4.1		I	28	NONE	P406				Desensitised explosive. Orange powder. Explosive and sensitive to friction in the dry state. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals or their salts.
1344	TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass	4.1		I	28	NONE	P406	PP26			Desensitised explosive. Substance in pure form consists of yellow crystals. Soluble in water. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.
1347	SILVER PICRATE, WETTED with not less than 30% water, by mass	4.1		I	28	NONE	P406	PP25 PP26			Desensitised explosive. Yellow crystals. Soluble in water. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact. May form extremely sensitive compounds with heavy metals or their salts.
1348	SODIUM DINITRO-o CRESOLATE, WETTED with not less than 15% water, by mass	4.1	6.1 P	I	28	NONE	P406	PP26			Desensitised explosive. Substance in pure form consists of yellow powder. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Toxic if swallowed, by skin contact or by inhalation.
1349	SODIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1		I	28	NONE	P406	PP26			Desensitised explosive. Substance in pure form consists of yellow powder. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Harmful if swallowed or by skin contact.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1353	FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE N.O.S.	4.1	•	III		5kg	P410 IBC08	B3			Toe board (Toe Puff) used in the manufacture of boots and shoes. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air.
1354	TRINITROBENZENE, WETTED with not less than 30% water, by mass	4.1		I	28	NONE	P406				Desensitised explosive. Substance in pure form consists of yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact. May form extremely sensitive compounds with heavy metals or their salts.
1355	TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass	4.1		I	28	NONE	P406				Desensitised explosive. Substance in pure form consists of yellow crystals. Soluble in water. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact. May form extremely sensitive compounds with heavy metals or their salts.
1356	TRINITROTOLUENE (TNT), WETTED with not less than 30% water, by mass	4.1		I	28	NONE	P406				Desensitised explosive. Substance in pure form consists of yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact. May form extremely sensitive compounds with heavy metals or their salts.
1357	UREA NITRATE, WETTED with not less than 20% water, by mass	4.1		I	28 227	NONE	P406				Desensitised explosive. Substance in pure form consists of white crystals. Soluble in water. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1442	AMMONIUM PERCHLORATE	5.1		II	152	1kg	P002 IBC06	B2	T3	TP33	White crystals or powder. Soluble in water. When heated, decomposes readily, even with explosion, evolving toxic fumes. Forms highly explosive mixtures with combustible material or powdered metals. These mixtures are sensitive to friction and are liable to ignite. See also UN 0402.
1479	OXIDIZING SOLID, N.O.S.	5.1	•	I	274	NONE	P503 IBC05	B1			
		5.1	•	II	274	1kg	P002 IBC08	B2 B4	T3	TP33	
		5.1	•	III	223 274	5kg	P002 IBC08 LP02	B3	T1	TP33	
1517	ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1		I	28	NONE	P406	PP26			Desensitised explosive. Highly explosive in the dry state or if insufficiently wetted. May react violently in contact with heavy metals or their salts.
1571	BARIUM AZIDE, WETTED with not les than 50% water, by mass	4.1	6.1	I	28	NONE	P406	PP31			Desensitised explosive. White crystals or powder. Explosive and sensitive to friction, sparks, electrostatic discharge and impact in the dry state. Toxic if swallowed, by skin contact or by dust inhalation. May form extremely sensitive compounds with heavy metals or their salts. Metal receptacles shall not be made from copper or alloys containing copper.
1942	AMMONIUM NITRATE, with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance.	5.1		III	306	5kg	P002 IBC08 LP02	B3	T1 BK1 BK2	TP33	Crystals, granules or prills. Soluble in water. Supporter of combustion. A major fire involving this substance may involve a risk of explosion in the event of contamination (e.g. by fuel oil) or strong confinement. An adjacent detonation may also involve the risk of explosion. If heated strongly, decomposes, giving off toxic gases and gases which support combustion.
2000	CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap	4.1		III	223	5kg	P002 LP02	PP7			Ignites readily. When involved in a fire, evolves toxic fumes; in enclosed cargo spaces, these fumes may form an explosive mixture with air.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	CELLULOID, SCRAP	4.2		III	223	NONE	P002 IBC08 LP02	PP8 B3			See UN 2000
2016	AMMUNITION, TOXIC, NON EXPLOSIVE without burster or expelling charge, non-fuzed	6.1		II		NONE	P600				Contents may evolve toxic fumes or vapour. Gases evolved are toxic by skin contact or by inhalation.
2017	AMMUNITION, TEAR-PRODUCING, NONEXPLOSIVE without burster or expelling charge, non-fuzed	6.1	8	II		NONE	P600				Contents may evolve irritant gas or vapour with lachrymatory effects.
2028	BOMBS, SMOKE, NON - EXPLOSIVE with corrosive liquid, without initiating device	8		II		NONE	P803				Corrosive content evolves dense smoke when in contact with air. Corrosive content may cause acid burns to skin.
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3		I	198	NONE	P001		T11	TP1 TP8 TP27	When involved in a fire, evolves toxic nitrous fumes.
		3		II	198	1L	P001 IBC02		T4	TP1 TP8	
		3		III	198 223	5L	P001 LP01 IBC03		T2	TP1	
2067	AMMONIUM NITRATE BASED FERTILISER	5.1		III	186 306 307	5kg	P002 IBC08 LP02	B3	T1 BK1 BK2	TP33	Crystals, granules or prills. Wholly or partly soluble in water. Supporters of combustion. A major fire involving these substances may involve a risk of explosion in the event of contamination (e.g. by fuel oil) or strong confinement. An adjacent detonation may also involve a risk of explosion. If heated strongly, decompose, giving off toxic gases and gases which support combustion.
2071	AMMONIUM NITRATE BASED FERTILISER	9		III	186 193	5kg	P002 IBC08 LP02	B3			Usually granules. Wholly or partly soluble in water. These mixtures may be subject to self-sustaining decomposition if heated. The temperature in such a reaction can reach 500°C. Decomposition, once initiated, may spread throughout the remainder, producing gases which are toxic. None of these mixtures is subject to the explosion hazard.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2426	AMMONIUM NITRATE, LIQUID (hot concentrated solution)	5.1			252	NONE			T7	TP1 TP16 TP17	Hot aqueous solution of not more than 93% ammonium nitrate with not more than 0.2% combustible material (including organic material calculated as carbon) and free from any other added matter, containing at least 7% water, while the maximum content of chloride ions should not exceed 0.02%. May cause fire and explosion in contact with combustible material (e.g. wood, straw, cotton, oil, sugar, etc.), strong acids, and other Class 5.1 substances. Maximum allowable transport temperature of the solution 140°C. This temperature should be indicated on the transport unit. The acidity (pH) of the material when diluted with ten parts of water to one part of the material, by mass, should be between 5.0 and 7.0. The concentration and temperature of the solution at the time of loading, its percentage of combustible materials and of chlorides, and the contents of free acid should be certified.
2555	NITROCELLULOSE WITH WATER (not less than 25% water, by mass)	4.1		II		NONE	P406				Desensitised explosive. Nitrocellulose may be granular or in flakes, blocks or fibrous form. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals and their salts.
2556	NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)	4.1		II		NONE	P406				Nitrocellulose may be granular or in flakes, blocks or fibrous form. In case of leakage, flammable vapours are evolved which, in closed compartments, may form explosive mixtures with air. When involved in a fire evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Highly explosive when dry. May form extremely sensitive compounds with heavy metals and their salts.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2557	NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH or WITHOUT PLASTICISER, WITH or WITHOUT PIGMENT	4.1	•	II	241	NONE	P406				Nitrocellulose may be in granular form or in flakes. This product may also contain added pigments. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Burns extremely rapidly with intense heat radiation. The formulation should be prepared so that it remains homogeneous and does not separate during transport. May form extremely sensitive compounds with heavy metals and their salts.
2852	DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Golden-yellow, crystalline leaflets. Explosive and sensitive to shock and heat in the dry state. May form extremely sensitive compounds with heavy metals or their salts.
2907	ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate	4.1		II	127	NONE	P406 IBC06	PP26 PP80 B2, B12			Desensitised explosive. Pure isosorbide dinitrate is explosive. May form extremely sensitive compounds with heavy metals or their salts.
2956	5-tert-BUTYL-2,4,6-TRINITRO-m-XYLENE (MUSK XYLENE)	4.1		III	132 133	5kg	P409				Insoluble in water. May explode if involved in a fire under confined conditions. Sensitive to strong detonation shock. Harmful if swallowed or by skin contact.
2990	LIFE-SAVING APPLIANCES, SELF-INFLATING	9			296	NONE	P905				These articles may contain: (a) Class 2.2 compressed gases; (b) Signal devices (Class 1) which may include smoke and illumination signal flares; signal devices must be packed in plastic of fibreboard inner packagings; (c) Electric storage batteries; (d) First aid kit; or (e) Strike anywhere matches.
3064	NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin	3		II		NONE	P300				Immiscible with water. Ignites readily. When involved in a fire, evolves toxic nitrous fumes. Not explosive in this state but damage to, or leakage from, a package may allow solvent to evaporate and thus leave the nitroglycerin in an explosive state.
3072	LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment	9			296	NONE	P905				See UN 2990

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3101	ORGANIC PEROXIDE TYPE B, LIQUID	5.2			122 181 195 274 323	25ml	P520				May explode at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided.
3102	ORGANIC PEROXIDE TYPE B, SOLID	5.2			122 181 195 274 323	100g	P520				May explode at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. Addition of water to some organic peroxides will decrease their thermal stability.
3111	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED	5.2			122 181 195 274 323	NONE	P520				May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4 of UN Model Regulations or ADG Code. The temperature should be checked regularly.
3112	ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED	5.2			122 181 195 274 323	NONE	P520				See UN 3111
3139	OXIDIZING LIQUID, N.O.S.	5.1	•	I	274	NONE	P502				
		5.1	•	II	274	1L	P504 IBC02				
		5.1	•	III	223 274	5L	P504 IBC02				
3221	SELF-REACTIVE LIQUID TYPE B	4.1			181 274	25ml	P520	PP21			May explode at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3222	SELF-REACTIVE SOLID TYPE B	4.1			181 274	100g	P520	PP21			May explode at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.
3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED	4.1			181 194 274	NONE	P520	PP21			May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self- accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4 of UN Model Regulations or ADG Code. The temperature should be checked regularly.
3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED	4.1			181 194 274	NONE	P520	PP21			See UN 3231
3242	AZODICARBONAMIDE	4.1		II	215	1kg	P409		T3	TP33	Yellow or orange powder. Insoluble in water. Heat may cause exothermic decomposition, producing carbon monoxide (toxic and flammable gas) and nitrogen. May explode if involved in a fire under confined conditions. Addition of activators (e.g. zinc compounds) may result in a decrease of thermal stability and/or a change in explosive properties.
3251	ISOSORBIDE-5MONONITRATE	4.1		III	132 226	5kg	P409				May explode if involved in a fire under confined conditions. Sensitive to strong detonation shock.
3268	AIR BAG INFLATORS, or AIR BAG MODULES, or SEAT BELT PRETENSIONERS†	9		III	280 289	NONE	P902 LP902				See glossary of terms in Appendix 5
3270	NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass	4.1		II	237 286	1kg	P411				Filters may be small round pieces or large sheets. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Burns rapidly with intense heat radiation.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3317	2-AMINO-4,6 DINITROPHENOL, WETTED with not less than 20% water, by mass	4.1		I	28	NONE	P406	PP26			
3319	NITROGLYCERIN MIXTURE, DESENSITISED, SOLID, N.O.S., with more than 2% but not more than 10% nitroglycerin, by mass	4.1	•	II	272 274	NONE	P099				Desensitised explosive with lactose, glucose or cellulose. White solid. Soluble in water. When involved in a fire the nitroglycerin may accumulate and may produce an explosion. Contact with water may dissolve the desensitiser (lactose or glucose) causing migration and accumulation of the nitroglycerin which may explode. Nitroglycerin is denser than water. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Inhalation of vapours may cause headaches, dizziness and fainting.
3343	NITROGLYCERIN MIXTURE, DESENSITISED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass	3	•		274 278	NONE	P099				
3344	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE: PETN) MIXTURE, DESENSITISED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass	4.1	•	II	272 274	NONE	P406	PP26 PP80			
3357	NITROGLYCERIN MIXTURE, DESENSITISED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass	3	•	II	274 288	NONE	P099				
3364	TRINITROPHENOL (PICRIC ACID), WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Substance in pure form consists of yellow crystals. Soluble in water. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3365	TRINITROCHLOROBENZENE (PICRYL CHLORIDE), WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Explosive and sensitive to shock and heat in the dry state. Reacts violently with heavy metals and their salts.
3366	TRINITROTOLUENE (TNT), WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Substance in pure form consists of yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to shock and heat in the dry state.
3367	TRINITROBENZENE, WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Substance in pure form consists of odourless yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to shock and heat in the dry state. Harmful if swallowed or by skin contact.
3368	TRINITROBENZOIC ACID, WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Substance in pure form consists of yellow crystals. Soluble in water. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to shock and heat in the dry state. Harmful if swallowed or by skin contact. May reacts with heavy metals and their salts to form sensitive compounds.
3369	SODIUM DINITRO-o CRESOLATE, WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP24			Desensitised explosive. Substance in pure form consists of yellow powder. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. Toxic if swallowed, by skin contact or by inhalation.

UN No	Proper Shipping Name and Description	Class Or Division	Sub Risk	Packing Group	Special Provisions	Limited Qty	Packages and IBCs		Portable tanks & bulk containers		Properties and Observations
							Instruction	Special Provisions	Instruction	Special Provisions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3370	UREA NITRATE, WETTED, with not less than 10% water by mass	4.1		I	28	NONE	P406	PP78			Desensitised explosive. May form extremely sensitive compounds with heavy metals or their salts. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact.
3375	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives	5.1		II	309	NONE	P099 IBC99		T1	TP1 TP9 TP17 TP32	Non sensitised emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use.
3376	4-NITROPHENYL-HYDRAZINE, WETTED, with not less than 30% water, by mass	4.1		I	28	NONE	P406	PP26			Desensitised explosive. Dark orange solid. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.
3379	DESENSITISED EXPLOSIVE, LIQUID, N.O.S.	3		I	274 311	NONE	P099				This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported, unless specifically authorised by the Competent Authority.
3380	DESENSITISED EXPLOSIVE, SOLID, N.O.S.	4.1		I	274 311	NONE	P099				
3474	1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, WETTED, with not less than 20% water, by mass	4.1		I	28	NONE	P406	PP48			

A2-I

ADDENDUM I TO APPENDIX 2

CLASSIFICATION OF EXPLOSIVES

NOTES:

(1) *Class 1 is a restricted Class, that is, only those explosive substances and articles that are listed in Appendix 2 as dangerous goods of Class 1 may be accepted for transport. However, Competent Authorities may approve transport of explosive substances and articles for special purposes under special conditions. Therefore entries have been included in Appendix 2 for "SUBSTANCES, EXPLOSIVE, NOT OTHERWISE SPECIFIED" and "ARTICLES, EXPLOSIVE, NOT OTHERWISE SPECIFIED". It is the intention that these entries must be used only when no other method of operation is possible.*

(2) *General entries such as "EXPLOSIVE, BLASTING, TYPE A" are used to allow for the transport of new substances. In preparing these requirements, military ammunition and explosives have been taken into consideration to the extent that they are likely to be transported by commercial carriers.*

(3) *A number of substances and articles in Class 1 are described in Appendix 5. These descriptions are given because a term may not be well-known or may be at variance with its usage for regulatory purposes.*

(4) *Class 1 is unique in that the type of packaging frequently has a decisive effect on the hazard and therefore on the assignment to a particular Division. The correct Division is determined by use of the procedures provided in this Addendum.*

1. General

(1) Class 1 comprises of:

(a) Explosive substances (a substance which is not itself an explosive but which can form an explosive atmosphere of gas, vapour or dust is not included in Class 1), except those which are too dangerous to transport or those where the predominant hazard is one appropriate to another Class;

(b) Explosive articles, except devices containing explosive substances in such quantity or of such a character that their inadvertent or accidental ignition or initiation during transport must not cause any effect external to the device either by projection, fire, smoke, heat or loud noise; and

(c) Substances and articles not mentioned under (a) and (b) which are manufactured with a view to producing a practical, explosive or pyrotechnic effect.

(2) Transport of explosive substances which are unduly sensitive, or so reactive as to be subject to spontaneous reaction, is prohibited.

2. Definitions

For the purposes of this Code, the following definitions apply:

(a) *Explosive substance* means a solid or liquid substance (or a mixture of substances) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic substances are included even when they do not evolve gases;

(b) *Pyrotechnic substance* means a substance or a mixture of substances designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonative self-sustaining exothermic chemical reactions;

(c) *Explosive article* means an article containing one or more explosive substances;

(d) *Mass explosion* means one which affects almost the entire load virtually instantaneously.

3. Hazard Divisions

(1) The six Hazard Divisions of Class 1 are:

Division 1.1 *Substances and articles which have a mass explosion hazard;*

Division 1.2 *Substances and articles which have a projection hazard but not a mass explosion hazard;*

Division 1.3 *Substances and articles, which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.*

This Division comprises substances and articles:

(i) which give rise to considerable radiant heat; or

(ii) which burn one after another, producing minor blast or projection effects, or both.

Division 1.4 *Substances and articles which present no significant hazard*

This Division comprises substances and articles which present only a small hazard in the event of ignition or initiation during transport. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package;

Note: *Substances and articles in this Division are in Compatibility Group S if they are so packaged or designed that any hazardous effects arising from the accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not significantly hinder fire fighting or other emergency response efforts in the immediate vicinity of the package.*

Division 1.5 *Very insensitive substances which have a mass explosion hazard*

This Division comprises substances which have a mass explosion hazard but are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport;

Note: *The probability of transition from burning to detonation is greater when large quantities are transported.*

Division 1.6 *Extremely insensitive articles which do not have a mass explosion hazard*

This Division comprises articles which contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

Note: *The risk from articles of Division 1.6 is limited to the explosion of a single article.*

(2) Any substance or article having or suspected of having explosive characteristics shall first be considered for classification in Class 1 in accordance with the procedures in Section 8 of this

Addendum. Goods are not classified in Class 1 when:

(a) Unless specially authorised, the transport of an explosive substance is prohibited because sensitivity of the substance is excessive;

(b) The substance or article comes within the scope of those explosive substances and articles which are specifically excluded from Class 1 by the definition of this Class; or

(c) The substance or article has no explosive properties.

4. Compatibility Groups and Classification Codes

Goods of Class 1 are considered to be "compatible" if they can be safely stowed or transported together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident. By this criterion, goods listed in this Class have been divided into a number of Compatibility Groups, each denoted by a letter from A to L (excluding I), N and S. These are described in Section 6 of this Addendum.

5. Fireworks Load Quantity Classification

Some jurisdictions may classify loads above certain quantities as Classification Code 1.1G irrespective of individual explosives packaging classifications or classifications by default.
Refer to Section 2.5 of this Code.

6. Table of Compatibility Groups and Classification Codes

The following table shows the scheme of classification into Compatibility Groups, the possible Hazard Divisions associated with each group and the consequential classification codes.

Description of substance or article to be Classified	Compatibility Group	Classification Code
Primary explosive substance	A	1.1A
Article containing a primary explosive substance and not containing two or more effective protective features. Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap-type, are included, even though they do not contain primary explosives	B	1.1B 1.2B 1.4B
Propellant explosive substance or other deflagrating explosive substance or article containing such explosive substance	C	1.1C 1.2C 1.3C 1.4C
Secondary detonating explosive substance or black powder or article containing a secondary detonating explosive substance, in each case without means of initiation and without a propelling charge, or article containing a primary explosive substance and containing two or more effective protective features	D	1.1D 1.2D 1.4D 1.5D
Article containing a secondary detonating explosive substance, without means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids)	E	1.1E 1.2E 1.4E
Article containing a secondary detonating explosive substance with its own means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids) or without a propelling charge	F	1.1F 1.2F 1.3F 1.4F
Pyrotechnic substance, or article containing a pyrotechnic substance, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one containing white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel, or hypergolic liquids)	G	1.1G 1.2G 1.3G 1.4G
Article containing both an explosive substance and white phosphorus	H	1.2H 1.3H
Article containing both an explosive substance and a flammable liquid or gel	J	1.1J 1.2J 1.3J
Article containing both an explosive substance and a toxic chemical agent	K	1.2K 1.3K
Explosive substance or article containing an explosive substance and presenting a special risk (e.g. due to water-activation or presence of hypergolic liquids, phosphides or a pyrophoric substance) and needing isolation of each type	L	1.1L 1.2L 1.3L
Articles containing only extremely insensitive detonating substances	N	1.6N
Substance or article so packed or designed that any hazardous effects arising from accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not significantly hinder or prohibit fire fighting or other emergency response efforts in the immediate vicinity of the package	S	1.4S

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7. Scheme of Classification Codes of Explosives, Combination of Hazard Division with Compatibility Group

Hazard Division	Compatibility Group													A-S Σ
	A	B	C	D	E	F	G	H	J	K	L	N	S	
1.1	1.1A	1.1B	1.1C	1.1D	1.1E	1.1F	1.1G		1.1J		1.2L			9
1.2		1.2B	1.2C	1.2D	1.2E	1.2F	1.2G	1.2H	1.2J	1.2K	1.3L			10
1.3			1.3C			1.3F	1.3G	1.3H	1.3J	1.3K	1.3L			7
1.4		1.4B	1.4C	1.4D	1.4E	1.4F	1.4G						1.4S	7
1.5				1.5D										1
1.6												1.6N		1
1.1-1.6 Σ	1	3	4	4	3	4	4	2	3	2	3	1	1	35

The definitions of Compatibility Groups in Section 5 of this Addendum are intended to be mutually exclusive, except for a substance or article which qualifies for Compatibility Group S. Since the criterion of Compatibility Group S is an empirical one, assignment to this group is necessarily linked to the tests in the *UN Manual of Tests and Criteria* for assignment to Division 1.4.

8. Classification Procedure

(1) Any substance or article having or suspected of having explosive characteristics shall be considered for classification in Class 1. Substances and articles classified in Class 1 shall be assigned to the appropriate Division and Compatibility Group. Goods of Class 1 shall be classified in accordance with the latest version of the *UN Manual of Tests and Criteria.* To determine the Classification Code of a substance or article which may be a Class 1, the appropriate tests under Test Series 1– 7 of the *UN Manual of Test and Criteria* are required to be carried out.

(2) Except for substances, which are listed by their Proper Shipping Name in Appendix 2 of this Code, goods must not be offered for transport as Class 1 until they have been subjected to the classification procedure in the *UN Manual of Tests and Criteria*. In addition, the classification procedure must be undertaken before a new product is offered for transport. In this context a new product is one which, in the opinion of the Competent Authority, involves any of the following:

(a) a new explosive substance or a combination or a mixture of explosive substances, which is considered to be significantly different from other combinations or mixtures already classified;

(b) a new design of article or an article containing a new explosive substance or a new combination or mixture of explosive substances;

(c) a new design of package for an explosive substance or article including a new type of inner packaging;

Note: *The importance of this may be overlooked unless it is realised that a relatively minor change in an inner or outer packaging can be critical and can convert a lesser risk into a higher or mass explosion risk.*

(d) a unit load unless all the packages have an identical hazard classification code. The resultant classification code must be applied to the unit load as a whole, treating it as if it were a package for the purposes of marking and labelling.

(3) The producer or other applicant for classification of a product must provide adequate information

concerning the names and characteristics of all explosive substances in the product and must furnish the results of all relevant tests which have been carried out.

(4) Where testing is required, this is to be witnessed by a Competent Authority and be carried out in accordance with the latest version of the *UN Manual of Tests and Criteria,*

(5) A test report must be submitted to the Competent Authority of each jurisdiction in which classification is sought. In addition to details of test results as specified in the latest version of the *UN Manual of Tests and Criteria*, it must also contain specific information on:

(a) the composition of the substance or the structure of the article;

(b) the quantity of substance or number of articles per test;

(c) the type and construction of the packaging;

(d) the test assembly, including in particular the nature, quantity and arrangement of the means of initiation or ignition used;

(e) the course of the test, including in particular the time elapsing until the occurrence of the first noteworthy reaction of the substance or article, the duration and characteristics of the reaction, and an estimate of the latter's completeness;

(f) the effect of the reaction on the immediate surroundings (up to 25 metres from the site of the test);

(g) the effect of the reaction on the more remote surroundings (more than 25 metres from the site of the test); and

(h) the atmospheric conditions during the test.

(6) Verification of the classification must be undertaken if the substance or article or its packaging is degraded and the degradation might affect the behaviour of the item in the tests.

(7) Assessment of the hazard Division is usually made on the basis of test results. A substance or article must be assigned to the hazard Division which corresponds to the results of the tests to which the substance or article, as offered for transport, has been subjected. Other test results, and data assembled from accidents which have occurred, may also be taken into account.

Assignment to a hazard division by analogy may also be acceptable where it is clear to the Competent Authority, from data presented, that the analogy can be made.

(8) In the case of Compatibility Group S the tests may be waived by the Competent Authority if classification by analogy is possible using test results for a comparable article or substance and package configuration.

(9) The Competent Authority may exclude an article or substance from Class 1 by virtue of test results and the Class 1 definition.

(10) Where a substance provisionally accepted into Class 1 is excluded from Class 1 by performing Test Series 6 on a specific type and size of package, this substance, when meeting the classification criteria or definition for another class or division, should be listed in either Addendum II to Appendix 3 or in the ADG Code in that class or division with a Special Provision restricting it to the type and size of package tested.

(11) Where a substance is assigned to Class 1 but is diluted to be excluded from Class 1 by Test Series 6, this diluted substance, when meeting the classification criteria or definition for another class or division, should be listed in Appendix 2 of this Code in that class or division, at the highest concentration which excluded it from Class 1 (see Addendum II of Appendix 3). When sufficiently diluted, such substances may be deemed not to be subject to this Code.

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9. Assignment of Fireworks to Hazard Divisions

(1) Fireworks shall normally be assigned to Hazard Divisions 1.1, 1.2, 1.3, and 1.4 on the basis of test data derived from Test Series 6 of the *UN Manual of Test and Criteria*. However, since the range of such articles is very extensive and the availability of test facilities may be limited, assignment to Hazard Divisions may also be made in accordance with the procedure in Section 9(2) below.

(2) Assignment of fireworks to UN Nos. 0333, 0334, 0335 or 0336 may be made on the basis of analogy, without the need for Test Series 6 testing, in accordance with the Default Fireworks Classification Table in Section 10 of this Addendum. Such assignment must be made with the agreement of the Competent Authority. Items not specified in the table must be classified in accordance with the *UN Manual of Tests and Criteria*.

Note: *The addition of other types of fireworks to Column 1 of the Table in Section 10 of this Addendum must only be made on the basis of full test data submitted to the UN Sub Committee of Experts on the Transport of Dangerous Goods for consideration.*

(3) Where fireworks of more than one Hazard Division are packed in the same package they must be classified on the basis of the highest Hazard Division unless test data derived from the *UN Manual of Test and Criteria* indicate otherwise.

(4) The classification shown in the Table in Section 10 below applies only for articles packed in fibreboard boxes (4G).

10. Default Fireworks Classification Table

Note 1: This table contains a list of firework classifications that may be used, with the agreement of the Competent Authority, in the absence of Test Series 6, of the *UN Manual of Test and Criteria*, data.

Note 2: References to percentages in the table, unless otherwise stated, are to the mass of all pyrotechnic compositions (e.g., rocket motors, lifting charge, bursting charge and effect charge).

Note 3: "Flash composition" in this table refers to pyrotechnic compositions in powder form or as pyrotechnic units as presented in the fireworks, that are used to produce an aural effect, or used as a bursting charge or lifting charge, unless the time taken for the pressure rise is demonstrated to be more than 8 ms for 0.5 g of pyrotechnic composition in Test Series 2(c) (i) "Time/pressure test" of the *UN Manual of Tests and Criteria*.

Note 4: Dimensions in mm refers to:

(i) for spherical and peanut shells the diameter of the sphere of the shell;

(ii) for cylinder shells the length of the shell;

(iii) for a shell in mortar, Roman candle, shot tube firework or mine the inside diameter of the tube comprising or containing the firework;

(iv) for a bag mine or cylinder mine, the inside diameter of the mortar intended to contain the mine.

Note 5: Some fireworks, despite their classification, are prohibited in some jusrisdictions.

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Shell, spherical or cylindrical	Spherical display shell: aerial shell, colour shell, dye shell, multi-break shell, multi-effect shell, nautical shell, parachute shell, smoke shell, star shell; report shell: maroon, salute, sound shell, thunderclap, aerial shell kit	Device with or without propellant charge, with delay fuse and bursting charge, pyrotechnic unit(s) or loose pyrotechnic composition and designed to be projected from a mortar	All report shells	1.1G
			Colour shell: ≥ 180 mm	1.1G
			Colour shell: < 180 mm with > 25% flash composition, as loose powder and/ or report effects	1.1G
			Colour shell: > 25% flash composition as loose powder and/or report effects	1.1G
			Colour shell: < 180 mm with ≤ 25% flash composition, as loose powder and/ or report effects	1.3G
			Colour shell: ≤ 50 mm, or ≤ 60g pyrotechnic composition, with ≤ 2% flash composition as loose powder and/ or report effects	1.4G
	Peanut shell	Device with two or more spherical aerial shells in a common wrapper propelled by the same propellant charge with separate external delay fuses	The most hazardous spherical aerial shell determines the classification	
	Preloaded mortar, shell in mortar	Assembly comprising a spherical or cylindrical shell inside a mortar from which the shell is designed to be projected	All report shells	1.1G
			Colour shell: ≥ 180 mm	1.1G
			Colour shell: > 50 mm and < 180 mm	1.2G
			Colour shell: ≤ 50 mm, or < 60g pyrotechnic composition, with ≤ 25% flash composition as loose powder and/ or report effects	1.3G

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Shell, spherical or cylindrical (Continued)	Shell of shells (spherical) (Reference to percentages for shell of shells are to the gross mass of the fireworks article)	Device without propellant charge, with delay fuse and bursting charge, containing report shells and inert materials and designed to be projected from a mortar	> 120 mm	1.1G
		Device without propellant charge, with delay fuse and bursting charge, containing report shells ≤ 25g flash composition per report unit, with ≤ 33% flash composition and ≥ 60% inert materials and designed to be projected from a mortar	≤ 120 mm	1.3G
		Device without propellant charge, with delay fuse and bursting charge, containing colour shells and/or pyrotechnic units and designed to be projected from a mortar	> 300 mm	1.1G
		Device without propellant charge, with delay fuse and bursting charge, containing colour shells ≤ 70mm and/or pyrotechnic units, with ≤ 25% flash composition and ≤ 60% pyrotechnic composition and designed to be projected from a mortar	> 200 mm and ≤ 300 mm	1.3G
		Device with propellant charge, with delay fuse and bursting charge, containing colour shells ≤ 70 mm and/or pyrotechnic units, with ≤ 25% flash composition and ≤ 60% pyrotechnic composition and designed to be projected from a mortar	≤ 200 mm	1.3G
Battery/ combination	Barrage, bombardos, cakes, finale box, flowerbed, hybrid, multiple tubes, shell cakes, banger batteries, flash banger batteries	Assembly including several elements either containing the same type or several types each corresponding to one of the types of fireworks listed in this table, with one or two points of ignition	The most hazardous firework type determines the classification	

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Roman candle	Exhibition candle, candle, bombettes	Tube containing a series of pyrotechnic units consisting of alternate pyrotechnic composition, propellant charge, and transmitting fuse	50 mm inner diameter, containing flash composition, or < 50 mm with > 25% flash composition	1.1G
			≥ 50 mm inner diameter, containing no flash composition	1.2G
			< 50 mm inner diameter and ≤ 25% flash composition	1.3G
			≤ 30 mm inner diameter, each pyrotechnic unit ≤ 25g and ≤ 5% flash composition	1.4G
Shot tube	Single shot Roman candle, small preloaded mortar	Tube containing a pyrotechnic unit consisting of pyrotechnic composition, propellant charge with or without transmitting fuse	≤ 30 mm inner diameter and pyrotechnic unit > 25g, or > 5% and ≤ 25% flash composition	1.3G
			≤ 30 mm inner diameter, pyrotechnic unit ≤ 25g and ≤ 5% flash composition	1.4G
Rocket	Avalanche rocket, signal rocket, whistling rocket, bottle rocket, sky rocket, missile type rocket, table rocket	Tube containing pyrotechnic composition and/or pyrotechnic units, equipped with stick(s) or other means for stabilisation of flight, and designed to be propelled into the air	Flash composition effects only	1.1G
			Flash composition > 25% of the pyrotechnic composition	1.1G
			> 20 g pyrotechnic composition and flash composition ≤ 25%	1.3G
			≤ 20 g pyrotechnic composition, black powder bursting charge and ≤ 0.13g flash composition per report and ≤ 1g in total	1.4G

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Mine	Pot-au-feu, ground mine, bag mine, cylinder mine	Tube containing propellant charge and pyrotechnic units and designed to be placed on the ground or to be fixed in the ground. The principal effect is ejection of all the pyrotechnic units in a single burst producing a widely dispersed visual and/or aural effect in the air or: Cloth or paper bag or cloth or paper cylinder containing propellant charge and pyrotechnic units, designed to be placed in a mortar and to function as a mine	25% flash composition, as loose powder and/ or report effects	1.1G
			≥ 180;mm and ≤ 25% flash composition, as loose powder and/ or report effects	1.1G
			< 180 mm and ≤ 25% flash composition, as loose powder and/ or report effects	1.3G
			≤ 150g pyrotechnic composition, containing ≤ 5% flash composition as loose powder and/ or report effects. Each pyrotechnic unit ≤ 25 g, each report effect < 2g; each whistle, if any, ≤ 3g	1.4G
Fountain	Volcanos, gerbs, showers, lances, Bengal fire, flitter sparkle, cylindrical fountains, cone fountains, illuminating torch	Non-metallic case containing pressed or consolidated pyrotechnic composition producing sparks and flame	≥ 1kg pyrotechnic composition	1.3G
			< 1kg pyrotechnic composition	1.4G
Sparkler	Handheld sparklers, non-handheld sparklers, wire sparklers	Rigid wire partially coated (along one end) with slow burning pyrotechnic composition with or without an ignition tip	Perchlorate based sparklers: > 5g per item or > 10 items per pack	1.3G
			Perchlorate based sparklers: ≤ 5g per item and ≤ 10 items per pack; Nitrate based sparklers: ≤ 30g per item	1.4G

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Bengal stick	Dipped stick	Non-metallic stick partially coated (along one end) with slow-burning pyrotechnic composition and designed to be held in the hand	Perchlorate based items: > 5g per item or > 10 items per pack	1.3 G
			Perchlorate based items: ≤ 5g per item and ≤ 10 items per pack; nitrate based items: ≤ 30g per item	1.4G
Low hazard fireworks and novelties	Table bombs, throwdowns, crackling granules, smokes, fog, snakes, glow worm, serpents, snaps, party poppers	Device designed to produce very limited visible and/ or audible effect which contains small amounts of pyrotechnic and/ or explosive composition	Throwdowns and snaps may contain up to 1.6 mg of silver fulminate; snaps and party poppers may contain up to 16 mg of potassium chlorate/ red phosphorous mixture; other articles may contain up to 5 g of pyrotechnic composition, but no flash composition	1.4G
Spinner	Aerial spinner, helicopter, chaser, ground spinner	Non-metallic tube or tubes containing gas- or spark-producing pyrotechnic composition, with or without noise producing composition, with or without aerofoils attached	Pyrotechnic composition per item > 20g, containing ≤ 3% flash composition as report effects, or whistle composition ≤ 5g	1.3G
			Pyrotechnic composition per item ≤ 20g, containing ≤ 3% flash composition as report effects, or whistle composition ≤ 5g	1.4G

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Wheels	Catherine wheels, Saxon	Assembly including drivers containing pyrotechnic composition and provided with a means of attaching it to a support so that it can rotate	≥ 1kg total pyrotechnic composition, no report effect, each whistle (if any) ≤ 25g and ≤ 50g whistle composition per wheel	1.3G
			< 1kg total pyrotechnic composition, no report effect, each whistle (if any) ≤ 5g and ≤ 10g whistle composition per wheel	1.4G
Aerial wheel	Flying Saxon, UFO's, rising crown	Tubes containing propellant charges and sparks- flame- and/ or noise producing pyrotechnic compositions, the tubes being fixed to a supporting ring	> 200g total pyrotechnic composition or > 60g pyrotechnic composition per driver, ≤ 3% flash composition as report effects, each whistle (if any) ≤ 25g and ≤ 50g whistle composition per wheel	1.3G
			≤ 200g total pyrotechnic composition and ≤ 60g pyrotechnic composition per driver, ≤ 3% flash composition as report effects, each whistle (if any) ≤ 5g and ≤ 10g whistle composition per wheel	1.4G
Selection pack	Display selection box, display selection pack, garden selection box, indoor selection box; assortment	A pack of more than one type each corresponding to one of the types of fireworks listed in this table	The most hazardous firework type determines the classification	
Firecracker	Celebration cracker, celebration roll, string cracker	Assembly of tubes (paper or cardboard) linked by a pyrotechnic fuse, each tube intended to produce an aural effect	Each tube ≤ 140 mg of flash composition or ≤ 1 g black powder	1.4G

Default fireworks classification table

Type	Includes: / Synonym:	Definition	Specification	Classification
Banger	Salute, flash banger, lady cracker	Non-metallic tube containing report composition intended to produce an aural effect	> 2g flash composition per item	1.1G
			≤ 2g flash composition per item and ≤ 10g per inner packaging	1.3G
			≤ 1g flash composition per item and ≤ 10g per inner packaging or ≤ 10g black powder per item	1.4G

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ADDENDUM II TO APPENDIX 2

DETERMINATION ON STATUS OF MIXTURES AND SOLUTIONS

A mixture or solution containing one or more substances identified by name in this Appendix or classified under an N.O.S. entry and one or more substances not subject to the provisions of this Code, is not subject to the provisions of this Code if the hazard characteristics of the mixture or solution are such that they do not meet the criteria (including human experience criteria) for any Class.

ADDENDUM III TO APPENDIX 2

ASSIGNMENT OF PROPER SHIPPING NAME AND UN NUMBER TO MIXTURES AND UNLISTED SUBSTANCES

1.0 Unlisted Substances

1.1 All Unlisted Substances

Where a substance, being a dangerous goods of Class 1, including a mixture, is not directly listed in Appendix 2 it must first be assigned a Class and Subsidiary Risk (if any) in accordance with Addendum I of this Appendix. Classification is, in any case, required information for labelling, but it is also necessary for the selection of the N.O.S. name and corresponding UN Number which most accurately describes the substance within its Class and Subsidiary Risk.

1.2 Unlisted Technically Pure Substances

For an unlisted technically pure substance, the N.O.S. name must be selected in accordance with Section 1.1 (above). Where this N.O.S. name, as listed in Column 2 of Appendix 2 has SP274 against it, the name must be supplemented with the Technical Name of the substance in parenthesis immediately following the name.

2.0 Mixtures

2.1 For a mixture of listed or unlisted substances, where the N.O.S. name in Column 2 of Appendix 2 has SP274 against it, the Technical Names or Proper Shipping Names of not more than two constituents which most predominantly contribute to the hazards of the mixture must be shown in parentheses immediately following the N.O.S. name. This requirement shall not apply to controlled substances when their disclosure is prohibited by national law or international convention and may not apply, with the approval of the Competent Authority, to UN 0190.

If classification demonstrates a Subsidiary Risk, then one of the two names must be that of the constituent compelling the Subsidiary Risk classification.

2.2 Where the Technical Name(s) in parentheses are of constituents in a mixture, a qualifying term such as ‘contains’ must be used to indicate a mixture rather than a pure compound.

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APPENDIX 3

LIST OF SPECIAL PROVISIONS

NOTES:

(1) Appendix 3 contains a series of Special Provisions. These provisions have been adopted from the *UN Model Regulations*.

(2) Each provision is numbered. Where Column 6 of Appendix 2 indicates that a Special Provision is relevant to particular dangerous goods the meaning and requirements of that Special Provision are as set forth below.

(3) Some Special Provisions merely contain helpful information in relation to the goods (see, for example, SP 226).

(4) Some Special Provisions qualify an entry in Appendix 2; for example, by specifying that certain of the dangerous goods named in Column 2 may be classified in a particular way, (see, for example, SP 105), or that the entry applies only to goods of a particular description (see, for example, SP 178 and SP 266).

(5) Some Special Provisions specify the way in which dangerous goods are to be packaged, marked and transported (see, for example, SP 28 and SP 133).

(6) Some Special Provisions provide that the transport of goods to which the Special Provision applies may be prohibited (see, for example, SP 266). For the purposes of this Code, those goods are specified as goods too dangerous to be transported. Refer to Appendix 9 of this Code.

(7) Some Special Provisions provide that under certain conditions, some goods are not subject to the provisions of this Code. For the purposes of this Code, those goods are not dangerous goods (see, for example, SP 223 and SP 252).

(8) Some Special Provisions provide that a conduct in relation to a dangerous goods is prohibited unless "special authorisation" is granted by a Competent Authority*. Conduct of that description without such authorisation is not in accordance with this Code (see, for example, SP 272).

* In order to obtain "special authorisation", application should be made to the relevant Competent Authority (see Section 1.5 of this Code).

3.1 List of Special Provisions

SP No.	Special Provision
16	Samples of new or existing explosive substances or articles may be transported as directed by the Competent Authority for purposes including: testing, classification, research and development, quality control, or as a commercial sample. Explosive samples which are not wetted or desensitised shall be limited to 10kg in small packages as specified by the Competent Authority. Explosive samples which are wetted or desensitised shall be limited to 25kg.
28	This substance may be transported under the provisions of Division 4.1 only if it is so packed that the percentage of diluent will not fall below that stated, at any time during transport (refer to Addenda I and II of this Appendix).
105	Nitrocellulose meeting the descriptions of UN 2556 or UN 2557 may be classified in Division 4.1.
122	The subsidiary risks, control and emergency temperatures if any, and the generic entry number for each of the currently assigned organic peroxide formulations are given in Section 2.5.3.2.4 of the ADG Code.
127	Other inert material or inert material mixture may be used at the discretion of the Competent Authority, provided this inert material has identical phlegmatising properties.
131	The phlegmatised substance shall be significantly less sensitive than dry PETN.
132	During the course of transport, this substance shall be protected from direct sunshine and stored (or kept) in a cool and well ventilated place, away from all sources of heat.
133	If over-confined in packagings, this substance may exhibit explosive behaviour. Packagings authorised under packing instruction P409 are intended to prevent over-confinement. When a packaging other than those prescribed under packing instruction P409 is authorised by the Competent Authority, the package shall bear an "EXPLOSIVE" subsidiary risk label (Model No.1 in Figure 3.1) unless the Competent Authority has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not exhibit explosive behaviour. For export shipments the provisions of Sections 7.2.8 and 7.1.7 of the IMDG Code shall also be considered.
152	The classification of this substance will vary with particle size and packaging, but borderlines have not been experimentally determined. Appropriate classifications shall be made using the procedure as set out in Section 8 of Addendum I to Appendix 2 of this Code.
178	This designation shall be used only when no other appropriate designation exists in the list, and only with the approval of the Competent Authority of the country of origin.
181	Packages containing this type of substance shall bear the "EXPLOSIVE" subsidiary risk label (Model No.1 in Figure 3.1) unless the Competent Authority has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not exhibit explosive behaviour. The requirements of Section 7.2.8 of the ADG Code shall also be considered.
186	In determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate.
193	This entry may only be used for uniform ammonium nitrate based fertiliser mixtures of the nitrogen, phosphate or potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material. Fertilisers within these composition limits are not subject to the provisions of this Code when shown by a Trough Test (see *UN Manual of Tests and Criteria*, Part III, Sub-Section 38.2) that they are not liable to self-sustaining decomposition.

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SP No.	Special Provision
194	The control and emergency temperatures, if any, and the generic entry number for each of the currently assigned self-reactive substances are given in Section 2.4.2.3.2.3 of the ADG Code.
195	For certain organic peroxides Types B or C, a smaller packaging than that allowed by packing methods OP5 or OP6 respectively has to be used (see Sections 4.1.7 and 2.5.3.2.4 of the ADG Code).
198	Nitrocellulose solutions containing not more than 20% nitrocellulose may be transported as paint or printing ink, as applicable. See UN 1210, 1263, 3066, 3469 and 3470 in the ADG Code.
204	Articles containing smoke-producing substance(s) corrosive according to the criteria for Class 8 shall be labelled with a "CORROSIVE" subsidiary risk label (see Model No. 8 of Figure 3.6).
215	This entry only applies to the technically pure substance or to formulations derived from it, having an SADT higher than 75°C and, therefore, does not apply to formulations, which are self-reactive substance (for self-reactive substances, see Section 2.4.2.3.2.3 of the ADG Code). Homogeneous mixtures containing not more than 35% by mass of azodicarbonamide and at least 65% of inert substance are not subject to this Code unless criteria of other Classes are met.
223	If the chemical or physical properties of a substance covered by this description are such that, when tested, it does not meet the established defining criteria for the Class or Division listed in Column 3 of Appendix 2, or any other Class or Division, it is not subject to the provisions of this Code, except for sea transport where the substance may be a marine pollutant under Chapter 2.10 of the IMDG Code.
224	Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance shall remain liquid during normal transport conditions. It shall not freeze at temperatures above -15°C.
226	Formulations of these substances containing not less than 30 % non-volatile, non-flammable phlegmatiser are not subject to the provisions of this Code.
227	When phlegmatised with water and inorganic inert material, the content of urea nitrate may not exceed 75% by mass and the mixture shall not be capable of being detonated by the Series 1, Type (a) test in the *UN Manual of Tests and Criteria*, Part I.
235	This entry applies to articles which contain Class 1 explosive substances and which may also contain dangerous goods of other Classes. These articles are used as life-saving vehicle air bag inflators or air bag modules or seat-belt pretensioners.
237	The membrane filters, including paper separators, coating or backing materials, etc., that are present in transport, shall not be liable to propagate a detonation as tested by one of the tests described in the *UN Manual of Tests and Criteria*, Part I, Test series 1(a). In addition, the Competent Authority may determine, on the basis of the results of suitable burning rate tests taking account of the standard tests in the *UN Manual of Tests and Criteria*, Part III, Sub-section 33.2.1, that nitrocellulose membrane filters in the form in which they are to be transported are not subject to the provisions of this Code applicable to flammable solids in Division 4.1.
241	The formulation shall be prepared so that it remains homogeneous and does not separate during transport. Formulations with low nitrocellulose contents and not showing dangerous properties when tested for their liability to detonate, deflagrate or explode when heated under defined confinement by tests of Test series 1(a), 2(b) and 2(c) respectively in the *UN Manual of Tests and Criteria*, Part I and not being a flammable solid when tested in accordance with test N.1 in the *UN Manual of Tests and Criteria*, Part III, Sub-section 33.2.1.4 (chips, if necessary, crushed and sieved to a particle size of less than 1.25mm) are not subject to the provisions of this Code.

SP No.	Special Provision
252	Provided the ammonium nitrate remains in solution under all conditions of transport, aqueous solutions of ammonium nitrate, with not more than 0.2% combustible material, in a concentration not exceeding 80%, are not subject to the provisions of this Code (see the ADG Code).
266	This substance, when containing less alcohol, water or phlegmatiser than specified, shall not be transported unless specifically authorised by the Competent Authority.
267	Any explosives, blasting, type C containing chlorates shall be segregated from explosives containing ammonium nitrate or other ammonium salts.
271	Lactose or glucose or similar materials may be used as a phlegmatiser provided that the substance contains not less than 90%, by mass, of phlegmatiser. The Competent Authority may authorise these mixtures to be classified under Division 4.1 on the basis of Test Series 6(c) of Part I of the *UN Manual of Tests and Criteria* on at least three packages as prepared for transport. Mixtures containing at least 98%, by mass, of phlegmatiser are not subject to the provisions of this Code. Packages containing mixtures with not less than 90%, by mass, of phlegmatiser need not bear a "TOXIC" subsidiary risk label.
272	This substance shall not be transported under the provisions of Division 4.1 unless specifically authorised by the Competent Authority (see UN 0143).
274	For the purpose of documentation and package marking, the Proper Shipping Name shall be supplemented with the technical name (see Section 2.3 in the scope and general provisions of Appendix 2 of this Code).
278	These substances shall not be classified and transported unless authorised by the Competent Authority on the basis of results from Series 2 tests and Series 6(c) test of Part I of the *UN Manual of Tests and Criteria* on packages as prepared for transport (see Section 2.1.3.1 of the ADG Code). The Competent Authority shall assign the Packing Group on the basis of the Chapter 2.3 criteria, in the ADG Code, and the package type used for the Series 6(c) test.
280	This entry applies to articles which are used as life-saving vehicle air bag inflators, or air bag modules or seat-belt pretensioners and which contain dangerous goods of Class 1 or dangerous goods of other classes and when transported as component parts and when these articles as presented for transport have been tested in accordance with Test Series 6 (c) of Part I of the *UN Manual of Tests and Criteria*, with no explosion of the device, no fragmentation of device casing or pressure vessel, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity.
286	Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5g, are not subject to the provisions of the ADG Code when contained individually in an article or a sealed packet.
288	These substances shall not be classified and transported unless authorised by the Competent Authority on the basis of results from Series 2 tests and a Series 6(c) test on packages as prepared for transport (see Addendum I to Appendix 2 of this Code, in particular, Section 8).
289	Air bag inflators, air bag modules or seat-belt pretensioners installed in vehicles or in completed vehicle components such as steering columns, door panels, seats etc. are not subject to the provisions of this Code.

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SP No.	Special Provision
296	These entries apply to life-saving appliances such as life rafts, personal flotation devices and self-inflating slides. UN 2990 applies to self-inflating appliances. UN 3072 applies to life-saving appliances that are not self-inflating. Life-saving appliances may contain: **1.** Signal devices (Class 1) which may include smoke and illumination signal flares packed in packagings that prevent them from being inadvertently activated; **2**. For UN 2990 only, cartridges, power device of Division 1.4, Compatibility Group S, may be contained for purposes of the self inflating mechanism and provided that the quantity of explosives per appliance does not exceed 3.2g; **3.** Division 2.2 compressed gases **4.** Electric storage batteries (Class 8) and lithium batteries (Class 9); **5.** First aid kits or repair kits containing small quantities of dangerous goods (e.g.: Classes 3, 4.1, 5.2, 8 or 9 substances); or **6.** "Strike anywhere" matches packed in packagings that prevent them from being inadvertently activated.
306	This entry may only be used for substances that do not exhibit explosive properties of Class 1 when tested in accordance to Test Series 1 and 2 of Class 1 (see *UN Manual of Tests and Criteria*, Part 1).
307	This entry shall be used for uniform mixtures containing ammonium nitrate as the main ingredient within the following composition limits: **1.** Not less than 90% ammonium nitrate with not more than 0.2% total combustible/organic material calculated as carbon and with added matter, if any, which is inorganic and inert towards ammonium nitrate; or **2.** Less than 90% but more than 70% ammonium nitrate with other inorganic materials or more than 80% but less than 90% ammonium nitrate mixed with calcium carbonate and/or dolomite and/or mineral calcium sulphate and not more than 0.4% total combustible/organic material calculated as carbon; or **3.** Nitrogen type ammonium nitrate based fertilisers containing mixtures of ammonium nitrate and ammonium sulphate with more than 45% but less than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon such that the sum of the percentage compositions of ammonium nitrate and ammonium sulphate exceeds 70%.
309	This entry applies to non sensitised emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use. The mixture for emulsions typically has the following composition: 60-85% ammonium nitrate, 5-30% water, 2-8% fuel, 0.5-4% emulsifier agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. The mixture for suspensions and gels typically has the following composition: 60-85% ammonium nitrate, 0-5% sodium or potassium perchlorate, 0-17% hexamine nitrate or monomethylamine nitrate, 5-30% water, 2-15% fuel, 0.5-4% thickening agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. Substances shall satisfactorily pass Test Series 8 of the *UN Manual of Tests and Criteria*, Part I, Section 18 and be approved by the Competent Authority.

SP No.	Special Provision
311	Substances shall not be transported under this entry unless approved by the Competent Authority on the basis of the results of appropriate tests according to Part I of the *UN Manual of Tests and Criteria*. Packaging shall ensure that the percentage of dilutent does not fall below that stated in the Competent Authority approval at any time during transport.
323	The label conforming to Model No.5.2A in Figure 3.4 may be used until 1 January 2011.

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ADDENDUM I TO APPENDIX 3

1. Diluted Substances

Where a substance is assigned to Class 1 but is diluted to be excluded from Class 1 by Test Series 6, (refer to Section 16 of the *UN Manual of Tests and Criteria),* this diluted substance, when meeting the classification criteria or definition for another Class, is listed in Chapter 3.2 of the ADG Code in that Class, at the highest concentration which exempts it from Class 1. When sufficiently diluted, such substances may be deemed not to be subject to the provisions of this Code.

New solid such desensitised explosives subject to classification shall be listed in Division 4.1 and new liquid such desensitised explosives shall be listed in Class 3. When the desensitised explosive meets the criteria or definition for another Class, the corresponding subsidiary risk(s) shall be assigned to it.

ADDENDUM II TO APPENDIX 3

1. Desensitised Explosives

Desensitised explosives are substances, which are wetted with water or alcohols or are diluted with other substances to form a homogenous mixture to suppress their explosive properties. Entries in the Numerical List in Appendix 2 of this Code for desensitised explosives are:

UN 1204, UN 1310, UN 1320, UN 1321, UN 1322, UN 1336, UN 1337, UN 1344, UN 1347, UN 1348, UN 1349, UN 1353, UN 1354, UN 1355, UN 1356, UN 1357, UN 1517, UN 1571, UN 2000, UN 2059, UN 2555, UN 2556, UN 2557, UN 2852, UN 2907, UN 2956, UN 3064, UN 3317, UN 3319, UN 3343, UN 3344, UN 3357, UN 3364, UN 3365, UN 3366, UN 3367, UN 3368, UN 3369, UN 3370, UN 3376, UN 3379, UN 3380 and UN 3474.

A3-III

ADDENDUM III TO APPENDIX 3

1. Unlisted Substances

National or international regulations may list, either as single or as suitable collective entries, substances or articles, which do not appear in this Code. A "generic" or "not otherwise specified" entry may be used to permit the transport of substances or articles which do not appear specifically by name in the list of dangerous goods of Class 1. Such a substance or article may be transported only after its dangerous properties have been determined. The substance or article should then be classified according to the Class definitions and test criteria and the name in Appendix 2 of this Code which most appropriately describes the substance should be used (see also the 'List of Generic or N.O.S. Proper Shipping Names' in Appendix 6 of this Code).

The classification should be made by the appropriate Competent Authority. Once the Class of the substance or article has been so established all conditions for dispatch and transport, as stated in this Code, should be met. All substances or articles having or suspected of having explosive characteristics should first be considered for inclusion in Class 1. Some collective entries may be of the "generic" or "not otherwise specified" type provided that the regulations contain provisions ensuring safety, both by excluding extremely dangerous goods from normal transport and by covering all subsidiary risks inherent in some goods (for further information see paragraph 2.1.3 of Chapter 2.1, of the *UN Model Regulations*.

APPENDIX 4.1: PACKING INSTRUCTIONS

NOTES:

(1) The reference in Column 8 of Appendix 2 entitled "Numerical List of Explosives and Related Goods" is a reference to the Packing Instruction for explosives and related goods. (Refer to Chapter 5 Part 1 of this Code for requirements for Packaging and Unit Loads for Explosives). Column 9 of Appendix 2 lists the special packing provisions.

(2) This list of Instructions is essentially an adoption of the packing provisions contained in Section 4.1 of the *UN Model Regulations*. The Packing Instructions have been placed in numero/alpha order for each instruction.

(3) This Appendix includes:

(i) Packing instructions: identified as P and A4.1 (P) in the header.

(ii) Large Packing instructions: identified as LP and A4.1 (LP) in the header.

(iii) Intermediate bulk container instructions: identified as IBC and A4.1 (IBC) in the header.

(4) When packaging explosives for export, the Packing Instructions for packages, large packages and IBCs, as set out in the IMDG Code, are to be used.

A4.1(P)

4.1 List of Packing Instructions

P001	PACKING INSTRUCTION	P001

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Combination Package		Maximum capacity/Net mass		
Inner Packagings	**Outer Packagings**	**PGI**	**PGII**	**PGIII**
Glass 10 L Plastics 30 L Metal 40 L	**Drums**			
	steel (1A2)	250 kg	400 kg	400 kg
	aluminium (1B2)	250 kg	400 kg	400 kg
	other metal (1N2)	250 kg	400 kg	400 kg
	plastics (1H2)	250 kg	400 kg	400 kg
	plywood (1D)	150 kg	400 kg	400 kg
	fibre (1G)	75 kg	400 kg	400 kg
	Boxes			
	steel (4A)	250 kg	400 kg	400 kg
	aluminium (4B)	250 kg	400 kg	400 kg
	natural wood (4C1, 4C2)	150 kg	400 kg	400 kg
	plywood (4D)	150 kg	400 kg	400 kg
	reconstituted wood (4F)	75 kg	400 kg	400 kg
	fibreboard (4G)	75 kg	400 kg	400 kg
	expanded plastics (4H1)	60 kg	60 kg	60 kg
	solid plastics (4H2)	150 kg	400 kg	400 kg
	Jerricans			
	steel (3A2)	120 kg	120 kg	120 kg
	aluminium (3B2)	120 kg	120 kg	120 kg
	plastics (3H2)	120 kg	120 kg	120 kg
Single packagings				
Drums				
steel, non-removable head (1A1)		250 L	450 L	450 L
steel, removable head (1A2)		250 L*	250 L	250 L
aluminium, non-removable head (1B1)		250 L	450 L	450 L
aluminium, removable head (1B2)		250 L*	250 L	250 L
other metal, non-removable head (1N1)		250 L	450 L	450 L
other metal, removable head (1N2)		250 L*	250 L	250 L
plastics, non-removable head (1H1)		250 L	450 L	450 L
plastics, removable head (1H2)		250 L*	250 L	250 L
Jerrrycans				
steel, non-removable head (3A1)		60 L	60 L	60 L
steel, removable head (3A2)		60 L*	60 L	60 L
aluminium, non-removable head (3B1)		60 L	60 L	60 L
aluminium, removable head (3B2)		60 L*	60 L	60 L
plastics, non-removable head (3H1)		60 L	60 L	60 L
plastics, removable head (3H2)		60 L*	60 L	60 L
Composite Packages				
Pressure receptacles may be used provided that the general provisions of Section 4.1.3.6 of the ADG Code are met.				
plastics receptacle in steel or aluminium drum (6HA1, 6HB1)		250 L	250 L	250 L
plastics receptacle in fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)		120 L	250 L	250 L
plastics receptacle in steel or aluminium crate or box or plastics receptacle in wood, plywood, fibreboard or solid plastics box (6HA2,6HB2, 6HC, 6HD2, 6HG2 or 6HH2)		60 L	60 L	60 L
glass receptacle in steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or in a steel, aluminium, wood or fibreboard box or in a wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)		60 L	60 L	60 L
Special packing provision				
PP5	For UN 1204, Packagings shall be so constructed that explosion is not possible by reason of increased internal pressure. Gas cylinders and gas receptacles shall not be used for these substances.			

** Only substances with a viscosity more than 200mm^2/s are permitted*

P002 PACKING INSTRUCTION P002

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Combination Package		Maximum capacity/Net mass		
Inner Packagings	**Outer Packagings**	**PGI**	**PGII**	**PGIII**
Glass 10kg Plastic [a] 50kg Metal 50kg Paper [a,b,c] 50kg Fibre [a,b,c] 50kg **a.** These inner packagings shall be sift-proof. **b.** These inner packagings shall not be used when the substances being transported may become liquid during transport. **c.** Paper and fibre inner packagings shall not be used for substances of packing group I.	**Drums**			
	steel (1A2)	400 kg	400 kg	400 kg
	aluminium (1B2)	400 kg	400 kg	400 kg
	other metal (1N2)	400 kg	400 kg	400 kg
	plastics (1H2)	400 kg	400 kg	400 kg
	plywood (1D)	400 kg	400 kg	400 kg
	fibre (1G)	400 kg	400 kg	400 kg
	Boxes			
	steel (4A)	400 kg	400 kg	400 kg
	aluminium (4B)	400 kg	400 kg	400 kg
	natural wood (4C1)	250 kg	400 kg	400 kg
	natural wood with sift-proof walls (4C2)	250 kg	400 kg	400 kg
	plywood (4D)	250 kg	400 kg	400 kg
	reconstituted wood (4F)	125 kg	400 kg	400 kg
	fibreboard (4G)	125 kg	400 kg	400 kg
	expanded plastics (4H1)	60 kg	60 kg	60 kg
	solid plastics (4H2)	250 kg	400 kg	400 kg
	Jerricans			
	steel (3A2)	120 kg	120 kg	120 kg
	aluminium (3B2)	120 kg	120 kg	120 kg
	plastics (3H2)	120 kg	120 kg	120 kg
Single packagings				
Drums				
steel (1A1 or 1A2[d])		400 kg	400 kg	400 kg
aluminium (1B1 or 1B2[d])		400 kg	400 kg	400 kg
metal, other than steel or aluminium (1N1 or 1N2[d])		400 kg	400 kg	400 kg
plastics (1H1 or 1H2[d])		400 kg	400 kg	400 kg
fibre (1G)[e]		400 kg	400 kg	400 kg
plywood (1D)[e]		400 kg	400 kg	400 kg
Jerricans				
steel (3A1 or 3A2[d])		120 kg	120 kg	120 kg
aluminium (3B1 or 3B2[d])		120 kg	120 kg	120 kg
plastics (3H1 or 3H2[d])		120 kg	120 kg	120 kg
Boxes				
steel (4A)[e]		Not allowed	400 kg	400 kg
aluminium (4B)[e]		Not allowed	400 kg	400 kg
natural wood (4C1)[e]		Not allowed	400 kg	400 kg
natural wood with sift-proof walls (4C2)[e]		Not allowed	400 kg	400 kg
plywood (4D)[e]		Not allowed	400 kg	400 kg
reconstituted wood (4F)[e]		Not allowed	400 kg	400 kg
fibreboard (4G)[e]		Not allowed	400 kg	400 kg
solid plastics (4H2)[e]		Not allowed	400 kg	400 kg
Bags				
bags (5H3, 5H4, 5L3, 5M2)[e]		Not allowed	50 kg	50 kg
Composite Packages				
Pressure receptacles may be used provided that the general provisions of Section 4.1.3.6 of the ADG Code are met.				
plastics receptacle in steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1(5), 6HD1 (5) or 6HH1)		400 kg	400 kg	400 kg
plastics receptacle in steel or aluminium crate or box, wooden box, plywood box, fibreboard box or solid plastics box (6HA2, 6HB2, 6HC, 6HD2 (5), 6HG2 (5) or 6HH2)		75 kg	75 kg	75 kg
glass receptacle in steel, aluminium, plywood or fibre drum (6PA1, 6PB1, 6PD1 (5) or 6PG1 (5)) or in steel, aluminium, wood, or fibreboard box or in wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 (5) or 6PD2 (5)) or in solid or expanded plastics packaging (6PH2 or 6PH1 (5))		75 kg	75 kg	75 kg

d. *These packagings must not be used for substances of PG 1 that may become liquid during transport*

e. *These packagings must not be used when the substances being transported may become liquid during transport*

P002 continued	
Special packing provisions	
PP7	For UN 2000, Celluloid may be transported unpacked on pallets, wrapped in plastic film and secured by appropriate means, such as steel bands, as a single commodity in closed cargo transport units. Each pallet shall not exceed 1000kg.
PP8	For UN 2002, Packagings shall be so constructed that explosion is not possible by reason of increased internal pressure. Gas cylinders and gas receptacles shall not be used for these substances.
PP15	For UN 1324 and UN 2623, Packagings meet the Packing Group III performance level.

P010 PACKING INSTRUCTION P010

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Combination Package		**Maximum capacity/Net mass**
Inner Packagings	**Outer Packagings**	
Glass 1L Steel 40L	**Drums** steel (1A2) plastics (1H2) plywood (1D) fibre (1G)	 400 kg 400 kg 400 kg 400 kg
	Boxes steel (4A) natural wood (4C1, 4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) expanded plastics (4H1) solid plastics (4H2)	 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg
Single packagings		
Section 1.1 Drums steel, non-removable head (1A1)		450L
Jerrycans steel, non-removable head (3A1)		60L
Composite packagings Plastics receptacle in steel drums (6HA1)		250L

P099 PACKING INSTRUCTION P099

Only packagings which are approved for these goods by the Competent Authority may be used (see Section 4.1.3.7 of the ADG Code). A copy of the Competent Authority approval shall accompany each consignment or the transport document shall include an indication that the packaging was approved by the Competent Authority.

P101 PACKING INSTRUCTION P101

Only packagings which are approved by the Competent Authority may be used. The State's distinguishing sign for motor vehicles in international traffic of the country for which the authority acts shall be marked on the transport documents as follows:

"Packaging approved by the Competent Authority of..."

P110(a)	PACKING INSTRUCTION	P110(a)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags: plastics textile, plastic coated or lined rubber textile, rubberised textile	**(i) Bags** plastics textile, plastic coated or lined rubber textile, rubberised **(ii) Receptacles** plastics metal	**Drums** steel, removable head (1A2) plastics, removable head (1H2)

Additional requirements:
1. The intermediate packagings shall be filled with water saturated material such as an anti-freeze solution or wetted cushioning.
2. Outer packagings shall be filled with water saturated material such as an anti-freeze solution or wetted cushioning. Outer packagings shall be constructed and sealed to prevent evaporation of the wetting solution, except for UN 0224 when transported dry.

P110(b)	PACKING INSTRUCTION	P110(b)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Receptacles metal wood rubber, conductive plastics, conductive **Bags** rubber, conductive plastics, conductive	**Dividing partitions** metal wood plastics fibreboard	**Boxes** natural wood, sift-proof wall (4C2) plywood (4D) reconstituted wood (4F)

Special packing provision	
PP42	For UN Nos. 0074, 0113, 0114, 0129, 0130, 0135 and 0224, the following conditions shall be met: **a.** Inner packagings shall not contain more than 50 g of explosive substance (quantity corresponding to dry substance); and **b.** Compartments between dividing partitions shall not contain more than one inner packaging, firmly fitted; and **c.** The outer packaging may be partitioned into up to 25 compartments.

P111	PACKING INSTRUCTION	P111

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, waterproofed plastics textile, rubberised **Sheets** plastics textile, rubberised	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibreboard (1G) plastics, removable head (1H2)

Special packing provision	
PP43	For UN 0159, inner packagings are not required when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings.

P112(a)	PACKING INSTRUCTION (Solid wetted, 1.1D)	P112(a)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, multiwall, water resistant plastics textile textile, rubberised woven plastics **Receptacles** metal plastics	**Bags** plastics textile, plastic coated or lined **Receptacles** metal plastics	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Additional requirements
Intermediate packagings are not required if leakproof removable head drums are used as outer packaging.

Special packing provisions	
PP26	For UN Nos. 0004, 0076, 0078, 0154, 0219 and 0394, packagings shall be lead free.
PP45	For UN 0072 and UN 0226, intermediate packagings are not required.

P112(b) PACKING INSTRUCTION (Solid dry, other than powder 1.1D) P112(b)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, kraft paper, multiwall, water resistant plastics textile textile, rubberised woven plastics	**Bags** (for UN 0150 only) plastics textile, plastic coated or lined	**Bags** woven plastics, sift-proof (5H2) woven plastics, water-resistant (5H3) plastics, film (5H4) textiles, sift-proof (5L2) textile, water-resistant (5L3) paper, multiwall, water-resistant (5M2) **Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provisions	
PP26	For UN Nos. 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings shall be lead free.
PP46	For UN 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.
PP47	For UN 0222, inner packagings are not required when the outer packaging is a bag.

P112(c) PACKING INSTRUCTION (Solid dry powder 1.1D) P112(c)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, multiwall, water-resistant plastics woven plastics **Receptacles** fibreboard metal plastics wood	**Bags** paper, multiwall, water resistant with inner lining plastics **Receptacles** metal plastics	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Additional requirements:
1. Inner packagings are not required if drums are used as the outer packaging.
2. The packaging shall be sift-proof.

Special packing provisions	
PP26	For UN Nos. 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings shall be lead free.
PP46	For UN 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30kg.
PP48	For UN 0504, metal packagings shall not be used.

P113 PACKING INSTRUCTION P113

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper plastics textile, rubberised **Receptacles** fibreboard metal plastics wood	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Additional requirements:
The packaging shall be sift-proof.

Special packing provisions	
PP49	For UN 0094 and UN 0305, no more than 50 g of substance shall be packed in an inner packaging.
PP50	For UN 0027, inner packagings are not necessary when drums are used as the outer packaging.
PP51	For UN 0028, paper kraft or waxed paper sheets may be used as inner packagings.

P114(a) PACKING INSTRUCTION (Solid wetted) P114(a)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags plastics textile woven plastics **Receptacles** metal plastics	**Bags** plastics textile, plastic coated or lined **Receptacles** metal plastics	**Boxes** steel (4A) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Additional provision:
Intermediate packagings are not required if leakproof removable head drums are used as the outer packaging.

Special packing provisions	
PP26	For UN Nos. 0077, 0132, 0234, 0235 and 0236, packagings shall be lead free.
PP43	For UN 0342, inner packagings are not required when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings.

P114(b) PACKING INSTRUCTION (Solid dry) P114(b)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, kraft plastics textile, sift-proof woven plastics, sift-proof **Receptacles** fibreboard metal paper plastics woven plastics, sift-proof	Not necessary	**Boxes** natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provisions

PP26	For UN Nos. 0077, 0132, 0234, 0235 and 0236, packagings shall be lead free.
PP48	For UN 0504, metal packagings shall not be used.
PP50	For UN 0160, 0161 and 0508, inner packagings are not necessary when drums are used as the outer packaging.
PP52	For UN 0160 and UN 0161, when metal drums (1A2 or 1B2) are used as the outer packaging, metal packagings shall be so constructed that the risk of explosion, by reason of increased internal pressure from internal or external causes is prevented.

P115 PACKING INSTRUCTION P115

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Receptacles plastics	**Bags** plastics in metal receptacles **Drums** metal	**Boxes** natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provisions

PP45	For UN 0144, intermediate packagings are not required.
PP53	For UN Nos. 0075, 0143, 0495 and 0497, when boxes are used as the outer packaging, inner packagings shall have taped screw-cap closures and be not more than 5 L capacity each. Inner packagings shall be surrounded with non-combustible absorbent cushioning materials. The amount of absorbent cushioning material shall be sufficient to absorb the liquid contents. Metal receptacles shall be cushioned from each other. Net mass of propellant is limited to 30kg for each package when outer packagings are boxes.
PP54	For UN Nos. 0075, 0143, 0495 and 0497, when drums are used as the outer packaging and when intermediate packagings are drums, they shall be surrounded with non-combustible cushioning material in a quantity sufficient to absorb the liquid contents. A composite packaging consisting of a plastics receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellent in each package shall not exceed 120 L.
PP55	For UN 0144, absorbent cushioning material shall be inserted.
PP56	For UN 0144, metal receptacles may be used as inner packagings.
PP57	For UN Nos. 0075, 0143, 0495 and 0497, bags shall be used as intermediate packagings when boxes are used as outer packagings.
PP58	For UN Nos. 0075, 0143, 0495 and 0497, drums shall be used as intermediate packagings when drums are used as outer packagings.
PP59	For UN 0144, fibreboard boxes (4G) may be used as outer packagings.
PP60	For UN 0144, aluminium drums, removeable head (1B2) shall not be used.

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P116	PACKING INSTRUCTION	P116

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, water and oil resistant plastics textile, plastic coated or lined woven plastics, sift-proof **Receptacles** fibreboard, water-resistant metal plastics wood, sift-proof **Sheets** paper, water resistant paper, waxed plastics	Not necessary	**Bags** woven plastics (5H1) paper, multiwall, water resistant (5M2) plastics, film (5H4) textile, sift-proof (5L2) textile, water resistant (5L3) **Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2) **Jerricans** steel, removable head (3A2) plastics, removable head (3H2)

Special packing provisions	
PP61	For UN Nos. 0082, 0241, 0331 and 0332, inner packagings are not required if leakproof removable-head drums are used as the outer packaging.
PP62	For UN Nos. 0082, 0241, 0331 and 0332, inner packagings are not required when the explosive is contained in a material impervious to liquid.
PP63	For UN 0081, inner packagings are not required when contained in rigid plastics which is impervious to nitric esters.
PP64	For UN 0331, inner packagings are not required when bags (5H2, 5H3 or 5H4) are used as outer packagings.
PP65	For UN Nos. 0082, 0241, 0331 and 0332, bags (5H2 or 5H3) may be used as outer packagings.
PP66	For UN 0081, bags shall not be used as outer packagings.

P130	PACKING INSTRUCTION	P130

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Not necessary	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provision	
PP67	The following applies to UN Nos. 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488, and 0502: Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be transported unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices.

P131	PACKING INSTRUCTION	P131

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper plastics **Receptacles** fibreboard metal plastics wood **Reels**	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provision	
PP68	For UN Nos. 0029, 0267 and 0455, bags and reels shall not be used as inner packagings.

P132(a) PACKING INSTRUCTION P132(a)

(Articles consisting of closed metal, plastics or fibreboard casings that contain a detonating explosive, or consisting of plastics-bonded detonating explosives)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Not necessary	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)

P132(b) PACKING INSTRUCTION P132(b)

(Articles without closed casings)

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Receptacles fibreboard metal plastics **Sheets** paper plastics	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)

P133 PACKING INSTRUCTION P133

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Receptacles fibreboard metal plastics wood **Trays, fitted with dividing partitions** fibreboard plastics wood	**Receptacles** fibreboard metal plastics wood	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)

Additional requirement:
Receptacles are only required as intermediate packagings when the inner packagings are trays.

Special packing provision	
PP69	For UN Nos. 0043, 0212, 0225, 0268 and 0306, trays shall not be used as inner packagings.

P134 PACKING INSTRUCTION P134

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags water resistant **Receptacles** fibreboard metal plastics wood **Sheets** fibreboard, corrugated **Tubes** fibreboard	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibreboard (1G) plastics, removable head (1H2)

P135 PACKING INSTRUCTION P135

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper plastics **Receptacles** fibreboard metal plastics wood **Sheets** paper plastics	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P136 PACKING INSTRUCTION P136

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags plastics textile **Boxes** fibreboard plastics wood **Dividing partitions in the outer packagings**	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P137	PACKING INSTRUCTION	P137

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags plastics **Boxes** fibreboard **Tubes** fibreboard metal plastics **Dividing partitions in the outer packagings**	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provision	
PP70	For UN Nos. 0059, 0439, 0440 and 0441, when the shaped charges are packed singly, the conical cavity shall face downwards and the package shall be marked “THIS SIDE UP”. When the shaped charges are packed in pairs, the conical cavities shall face inwards to minimise the jetting effect in the event of accidental initiation.

P138	PACKING INSTRUCTION	P138

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags plastics	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibreboard (1G) plastics, removable head (1H2)

Additional requirement:
If the ends of the articles are sealed, inner packagings are not necessary.

P139 PACKING INSTRUCTION P139

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags plastics **Receptacles** fibreboard metal plastics wood **Reels** **Sheets** paper plastics	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provisions	
PP71	For UN Nos. 0065, 0102, 0104, 0289 and 0290, the ends of the detonating cord shall be sealed, for example, by a plug firmly fixed so that the explosive cannot escape. The ends of flexible detonating cord shall be fastened securely.
PP72	For UN 0065 and UN 0289, inner packagings are not required when they are in coils.

P140 PACKING INSTRUCTION P140

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags plastics **Reels** **Sheets** paper, kraft plastics	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Special packing provisions	
PP73	For UN 0105, no inner packagings are required if the ends are sealed.
PP74	For UN 0101, the packaging shall be sift-proof except when the fuse is covered by a paper tube and both ends of the tube are covered with removable caps.
PP75	For UN 0101, steel or aluminium boxes or drums shall not be used.

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P141	PACKING INSTRUCTION	P141

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Receptacles fibreboard metal plastics wood **Trays, fitted with dividing partitions** plastics wood **Dividing partitions in the outer packagings**	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P142	PACKING INSTRUCTION	P142

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper plastics **Receptacles** fibreboard metal plastics wood **Sheets** paper **Trays, fitted with dividing partitions** plastics	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P143 PACKING INSTRUCTION P143

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Bags paper, kraft plastics textile textile, rubberised **Receptacles** fibreboard metal plastics **Trays, fitted with dividing partitions** plastics wood	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

Additional requirement:
Instead of the above inner and outer packagings, composite packagings (6HH2) (plastics receptacle with outer solid box) may be used.

Special packing provision	
PP76	For UN Nos. 0271, 0272, 0415 and 0491, when metal packagings are used, metal packagings shall be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is prevented.

P144 PACKING INSTRUCTION P144

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner Packagings	Intermediate Packagings	Outer Packagings
Receptacles fibreboard metal plastics **Dividing partitions in the outer packagings**	Not necessary	**Boxes** steel (4A) aluminium (4B) natural wood, ordinary with metal liner (4C1) plywood (4D) with metal liner reconstituted wood with metal liner (4F) plastics, expanded (4H1) Plastics, solid (4H2) **Drums** steel, removable head (1A2) aluminium, removable head (1B2) plastics, removable head (1H2)

Special packing provision	
PP77	For UN 0248 and UN 0249, packagings shall be protected against the ingress of water. When water-activated contrivances are transported unpackaged, they shall be provided with at least two independent protective features which prevent the ingress of water.

P300 PACKING INSTRUCTION P300

This instruction applies to UN 3064.

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met:
Combination packagings consisting of inner metal cans of not more than 1 L capacity each, and outer wooden boxes (4C1, 4C2, 4D or 4F) containing not more than 5 L of solution.

Additional requirements
1. Metal cans shall be completely surrounded with absorbent cushioning material.
2. Wooden boxes shall be completely lined with suitable material impervious to water and nitroglycerin.

P406	PACKING INSTRUCTION	P406

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

(1) Combination packagings:
Outer packagings: (4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2, 1G, 1D, 1H2 or 3H2);
Inner packagings: water-resistant packagings.

(2) Plastics, plywood or fibreboard drums (1H2, 1D or 1G) or boxes (4A, 4B, 4C1, 4D, 4F, 4C2, 4G and 4H2) with a water resistant inner bag, plastics film lining or water resistant coating.

(3) Metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2), plastics drums (1H1 or 1H2), metal jerricans (3A1, 3A2, 3B1 or 3B2), plastics jerricans (3H1 or 3H2), plastics receptacle in steel or aluminium drums (6HA1 or 6HB1), plastics receptacle in fibre, plastics or plywood drums (6HG1, 6HH1 or 6HD1), plastics receptacle in steel, aluminium, wood, plywood, fibreboard or solid plastics boxes (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2).

Additional requirements

1. Packagings shall be designed and constructed to prevent the loss of water or alcohol content or the content of the phlegmatiser.

2. Packagings shall be so constructed and closed as to avoid an explosive overpressure or pressure build-up of more than 300 kPa (3 bar).

3. The type of packaging and maximum permitted quantity per packaging are limited by the provisions of Section 8(10) and Section 8(11) of Addendum I to Appendix 2 of this Code.

Special packing provision	
PP24	UN Nos 2852, 3364, 3365, 3367, 3368 and 3369, must not be transported in quantities more than 500 g per package.
PP25	UN 1374 must not be transported in quantities of more than 15kg per package.
PP26	For Un Nos 1310, 1320, 1321, 1322, 1344, 1347, 1348, 1349, 1517, 2907, 3317, 3344 and 3376, packagings must be lead free.
PP48	For UN No. 3474, metal packagings shall not be used.
PP78	UN 3370 must not be transported in quantities of more than 11.5kg per package.
PP80	For Un Nos. 2907 and 3344, packagings must meet the packing group II performance level. Packagings meeting the test criteria of packing group I must not be used.

P409	PACKING INSTRUCTION	P409

This instruction applies to UN Nos 2956, 3242 and 3251.

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

(1) Fibre drum (1G) which may be fitted with a liner or coating, maximum net mass 50 kg.

(2) Combination packagings: Fibreboard box (4G) with a single inner plastic bag, maximum net mass 50 kg.

(3) Combination packagings: Fibreboard box (4G) or fibre drum (1G) with inner plastic packagings each containing a maximum of 5 kg, maximum net mass 25 kg.

P410	PACKING INSTRUCTION	P410

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Combination Package		Maximum capacity/Net mass	
Inner Packagings	**Outer Packagings**	**PGII**	**PGIII**
Glass 10kg Plastic [a] 30kg Metal 40kg Paper [a,b] 10kg Fibre [a,b] 10kg **a.** Packagings shall be sift-proof **b.** These inner packagings shall not be used when the substances being transported may become liquid during transport.	**Drums** steel (1A2) aluminium (1B2) other metal (1N2) plastics (1H2) plywood (1D) fibre (1G) [a]	 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg
	Boxes steel (4A) aluminium (4B) natural wood (4C1) natural wood with sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) [a] expanded plastics (4H1) solid plastics (4H2)	 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 60 kg 400 kg	 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 60 kg 400 kg
	Jerricans steel (3A2) aluminium (3B2) plastics (3H2)	 120 kg 120 kg 120 kg	 120 kg 120 kg 120 kg

Single packagings	PGII	PGIII
Drums		
steel (1A1 or 1A2)	400 kg	400 kg
aluminium (1B1 or 1B2)	400 kg	400 kg
metal other than steel or aluminium (1N2 or 1N2)	400 kg	400 kg
plastics (1H1 or 1H2)	400 kg	400 kg
Jerricans		
steel (3A1 or 3A2)	120 kg	120 kg
aluminium (3B1 or 3B2)	120 kg	120 kg
plastics (3H1 or 3H2)	120 kg	120 kg
Boxes		
steel (4A)[c]	400 kg	400 kg
aluminium (4B)[c]	400 kg	400 kg
natural wood (4C1)[c]	400 kg	400 kg
plywood (4D)[c]	400 kg	400 kg
reconstituted wood (4F)[c]	400 kg	400 kg
natural wood with sift-proof walls (4C2)[c]	400 kg	400 kg
fibreboard (4G)[c]	400 kg	400 kg
solid plastics (4H2)[c]	400 kg	400 kg
Bags		
bags (5H3, 5H4, 5L3, 5M2)[c,d]	50 kg	50 kg

c. These packagings shall not be used when the substances being transported may become liquid during transport.
d. These packagings shall only be used for Packing Group II substances when transported in a closed cargo transport unit.

Composite Packages	PGII	PGIII
Pressure receptacles may be used provided that the general provisions of Section 4.1.3.6 of the ADG Code are met.		
Plastics receptacle in steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1, 6HD1 or 6HH1)	400 kg	400 kg
Plastics receptacle in steel or aluminium crate or box, wooden box, plywood box, fibreboard box or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)	75 kg	75 kg
Glass receptacle in steel, aluminium, plywood or fibre drum (6PA1, 6PB1, 6PD1 or 6PG1) or in steel, aluminium, wooden, wickerwork hamper or fibreboard box (6PA2, 6PB2, 6PC, 6PD2 or 6PG2) or in solid or expanded plastics packaging (6PH1 or 6PH2)	75 kg	75 kg

P411	PACKING INSTRUCTION	P411

This instruction applies to UN 3270.

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

(1) Fibreboard box with a maximum gross mass of 30kg.

(2) Other packagings, provided that explosion is not possible by reason of increased internal pressure. Maximum net mass shall not exceed 30kg.

P502	PACKING INSTRUCTION	P502

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Combination Packagings		Maximum net mass
Inner Packagings	**Drums**	
Glass 5 L	steel (1A2)	125 kg
Metal 5 L	aluminium (1B2)	125 kg
Plastics 5 L	metal other than steel or aluminium (1N2)	125 kg
	plastics (1H2)	125 kg
	plywood (1D)	125 kg
	fibre (1G)	125 kg
	Boxes	
	steel (4A)	125 kg
	aluminium (4B)	125 kg
	natural wood (4C1)	125 kg
	natural wood with sift proof walls (4C2)	125 kg
	plywood (4D)	125 kg
	reconstituted wood (4F)	125 kg
	fibreboard (4G)	125 kg
	expanded plastics (4H1)	60 kg
	solid plastic (4H2)	125 kg

Single packagings	Maximum Net mass
Drums	
steel (1A1)	250 L
aluminium (1B1)	250 L
plastics (1H1)	250 L
Jerricans	
steel (3A1)	60 L
aluminium (3B1)	60 L
plastics (3H1)	60 L
Composite packagings	
Plastics receptacle in steel or aluminium drum (6HA1, 6HB1)	250 L
Plastics receptacle in fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)	250 L
Plastics receptacle in steel or aluminium crate or box or plastics receptacle in wood, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)	60 L
Glass receptacle in steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or in a steel, aluminium, wood or fibreboard or plywood box (6PA2, 6PB2, 6PC 6PG2 or 6PD2)	60 L

P503 PACKING INSTRUCTION P503

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Combination Package		Maximum Net mass
Inner Packagings	**Outer Packagings**	
Glass 5kg Metal 5kg Plastic 5kg	**Drums** steel (1A2) aluminium (1B2) other metal (1N2) plastics (1H2) plywood (1D) fibre (1G)	 125 kg 125 kg 125 kg 125 kg 125 kg 125 kg
	Boxes steel (4A) aluminium (4B) natural wood (4C1) natural wood with sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) expanded plastics (4H1) solid plastics (4H2)	 125 kg 125 kg 125 kg 125 kg 125 kg 125 kg 40 kg 60 kg 125 kg

Single packagings

1. Metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2).

2. Fibreboard (1G) or plywood drums (1D) fitted with inner liners.

P504 PACKING INSTRUCTION P504

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Combination Packagings	
(1) Outer packagings: (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2) Inner packagings: Glass receptacles with a maximum capacity of 5 L	75 kg
(2) Outer packagings: (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2) Inner packagings: Plastic receptacles with a maximum capacity of 30 L	75 kg
(3) Outer packagings: 1G, 4F or 4G Inner Packagings: Metal receptacles with a maximum capacity of 40 L.	125 kg
(4) Outer packagings: (1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4H2) Inner packagings: Metal receptacles with a maximum capacity of 40 L.	225 kg
Single packagings	**Maximum Net mass**
Drums steel, non-removable head (1A1) aluminium, non-removable head (1B1) other metal, non-removable head (1N1) plastics, non-removable head (1H1)	 250 L 250 L 250 L 250 L
Jerricans steel, non-removable head (3A1) aluminium, non-removable head (3B1) plastics, non-removable head (3H1)	 60 L 60 L 60 L
Composite packagings	
Plastics receptacle in steel or aluminium drum (6HA1, 6HB1)	250 L
Plastics receptacle in fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)	120 L
Plastics receptacle in steel or aluminium crate or box or plastics receptacle in wood, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)	60 L
Glass receptacle in steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or in a steel, aluminium, wood or fibreboard or plywood box (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)	60 L

P520 PACKING INSTRUCTION P520

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

The packing methods are designated OP1 to OP8. The packing methods appropriate for the individual currently assigned organic peroxides and self-reactive substances are listed in Sections 2.4.2.3.2.3 and 2.5.3.2.4 of the ADG Code. The quantities specified for each packing method are the maximum quantities authorised per package.

The following packagings are authorised:

(1) Combination packagings with outer packagings comprising boxes (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2), drums (1A2, 1B2, 1G, 1H2 and 1D) or jerricans (3A2, 3B2 and 3H2);

(2) Single packagings consisting of drums (1A1, 1A2, 1B1, 1B2, 1G, 1H1, 1H2 and 1D) and jerricans (3A1, 3A2, 3B1, 3B2, 3H1 and 3H2);

(3) Composite packagings with plastics inner receptacles (6HA1, 6HA2, 6HB1, 6HB2, 6HC, 6HD1, 6HD2, 6HG1, 6HG2, 6HH1 and 6HH2).

Maximum quantity per packaging/package for packing methods OP1 to OP8

Packing method	OP1	OP2[a]	OP3	OP4[a]	OP5	OP6	OP7	OP8
Maximum mass for solids and for combination packagings (liquid and solid) in kilograms (kg).	0.5	0.5/10	5	5/25	25	50	50	400[b]
Maximum contents in litres for liquids	0.5	-	5	-	30	60	60	225[d]

a. If two values are given, the first applies to the maximum net mass per inner packaging and the second to the maximum net mass of the complete package.

b. 60 kg for jerricans, 200 kg for boxes and, for solids, 400 kg in combination packagings with outer packagings comprising boxes (4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2) and with inner packagings of plastics or fibre with a maximum net mass of 25 kg.

c. Viscous liquids shall be treated as solids when they do not meet the criteria provided in the definition for liquids as defined in Chapter 1 of this Code.

d. 60 L for jerricans.

Additional requirements

1. Metal packagings, including inner packagings of combination packagings and outer packagings of combination or composite packagings, may only be used for packing methods OP7 and OP8.

2. In combination packagings, glass receptacles may only be used as inner packagings with a maximum content of 0.5 kg for solids or 0.5 L for liquids.

3. In combination packagings, cushioning materials shall not be readily combustible.

4. The packaging of an organic peroxide or self-reactive substance required to bear an EXPLOSIVE subsidiary risk label (Model No.1 in Figure 3.1) shall also comply with the provisions given in Section 5.2.4 (10) and (11).

Special packing provisions

PP21	For certain self-reactive substances of types B or C, UN Nos 3221, 3222, 3223, 3224, 3231, 3232, 3233 and 3234, a smaller packaging than that allowed by packing methods OP5 or OP6, respectively, shall be used (see Section 4.1.6 and Section 2.4.2.3.2.3 of the ADG Code).

P600 PACKING INSTRUCTION P600

This instruction applies to UN Nos 1700, 2016 and 2017.

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

Outer packagings: (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2) meeting the packing group II performance level. The articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of transport.

Maximum net mass: 75 kg.

P803	PACKING INSTRUCTION	P803

This instruction applies to UN 2028.

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

(1) Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);

(2) Boxes (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2);

Maximum net mass: 75 kg.

The articles shall be individually packaged and separated from each other, using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of transport.

P902	PACKING INSTRUCTION	P902

This instruction applies to UN 3268.

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

Packagings conforming to the packing group III performance level. The packagings shall be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of transport.

The articles may also be transported unpackaged in dedicated handling devices, vehicles, containers or wagons when moved from where they are manufactured to an assembly plant.

Additional requirement:
Any pressure vessel shall be in accordance with the requirements of the Competent Authority for the substance(s) contained in the pressure vessel(s).

P905	PACKING INSTRUCTION	P905

This instruction applies to UN Nos 2990 and 3072.

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met, except that packagings need not conform to the provisions of Part 6 of the ADG Code.

When the life-saving appliances are constructed to incorporate or are contained in rigid outer weatherproof casings (such as for lifeboats), they may be transported unpackaged.

Additional requirements:

1. All dangerous substances and articles contained as equipment within the appliances shall be secured to prevent inadvertent movement and in addition:

(a) signal devices of Class 1 shall be packed in plastics or fibreboard inner packagings;

(b) gases (Class 2.2) shall be contained in cylinders as specified by the Competent Authority, which may be connected to the appliance;

(c) electric storage batteries (Class 8) and lithium batteries (Class 9) shall be disconnected or electrically isolated and secured to prevent any spillage of liquid; and

(d) small quantities of other dangerous substances (for example in Classes 3, 4.1 and 5.2) shall be packed in strong inner packagings.

2. Preparation for transport and packaging shall include provisions to prevent any accidental inflation of the appliance.

A4.1(LP)

LP01 PACKING INSTRUCTION (LIQUIDS) LP01

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Inner Packagings		Large Outer Packagings	PGI	PGII	PGIII
Glass Plastics Metal	10 L 30 L 40 L	steel (50A) aluminium (50B) metal other than steel or aluminium (50N) rigid plastics (50H) natural wood (50C) plywood (50D) reconstituted wood (50F) rigid fibreboard (50G)	Not allowed	Not allowed	Maximum capacity 3 m^3

LP02 PACKING INSTRUCTION (SOLIDS) LP02

The following packagings are authorised provided the general provisions of Chapter 5.1 are met:

Inner Packagings		Outer Packagings	PGI	PGII	PGIII
Glass Plastics[b] Metal Paper[a,b] Fibre[a,b]	10kg 50kg 50kg 50kg 50kg	steel (50A) aluminium (50B) metal other than steel or aluminium (50N) rigid plastics (50H) natural wood (50C) plywood (50D) reconstituted wood (50F) rigid fibreboard (50G) flexible plastics (51H)[c]	Not allowed	Not allowed	Maximum capacity: 3 m^3

a. These packagings shall not be used when the substances being transported may become liquid during transport.

b. Packagings shall be sift-proof.

c. To be used with flexible inner packagings only.

LP101 PACKING INSTRUCTION LP101

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner packagings	Intermediate packagings	Large packagings
Not necessary	Not necessary	steel (50A) aluminium (50B) metal other than steel or aluminium (50N) rigid plastics (50H) natural wood (50C) plywood (50D) reconstituted wood (50F) rigid fibreboard (50G)

Special packing provisions

LP1	For UN Nos. 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488, and 0502: Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be transported unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices.

LP102	PACKING INSTRUCTION	LP102

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

Inner packagings	Intermediate packagings	Large packagings
Bags water-resistant **Receptacles** fibreboard metal plastics wood **Sheets** fibreboard, corrugated **Tubes** fibreboard	Not necessary	steel (50A) aluminium (50B) metal other than steel or aluminium (50N) rigid plastics (50H) natural wood (50C) plywood (50D) reconstituted wood (50F) rigid fibreboard (50G)

LP902	PACKING INSTRUCTION	LP902

This instruction applies to UN 3268.

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

Packagings conforming to the packing group III performance level. The packagings shall be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of transport.

The articles may also be transported unpackaged in dedicated handling devices, vehicles, containers or wagons when moved from where they are manufactured to an assembly plant.

Additional requirement:
Any pressure vessel shall be in accordance with the requirements of the Competent Authority for the substance(s) contained in the pressure vessel(s).

A4.1(IBC)

IBC02	PACKING INSTRUCTION	IBC02
The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.		
(1) Metal (31A, 31B and 31N); **(2)** Rigid plastics (31H1 and 31H2); **(3)** Composite (31HZ1).		
Special packing provisions		
B8	The pure form of this substance must not be transported in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50°C or 130 kP1 at 55°C.	

IBC03	PACKING INSTRUCTION	IBC03
The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.		
(1) Metal (31A, 31B and 31N); **(2)** Rigid plastics (31H1 and 31H2); **(3)** Composite (31HZ1, 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2).		
Special packing provisions		
B8	The pure form of this substance must not be transported in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50°C or 130 kP1 at 55°C.	

IBC05	PACKING INSTRUCTION	IBC05
The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.		
(1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); **(2)** Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); **(3)** Composite (11HZ1, 21HZ1, and 31HZ1).		
Special packing provisions		
B1	For Packing Group I substances, IBCs shall be carried in closed cargo transport units.	
B2	For solid substances in IBCs other than metal or rigid plastics IBCs, the IBCs shall be carried in closed cargo transport units.	

IBC06	PACKING INSTRUCTION	IBC06
The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.		
(1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); **(2)** Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); **(3)** Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2).		
Additional requirement: Composite IBCs 11HZ2 and 21HZ2 shall not be used when the substances being transported may become liquid during transport.		
Special packing provisions		
B1	For Packing Group I substances, IBCs shall be carried in closed cargo transport units.	
B2	For solid substances in IBCs other than metal or rigid plastics IBCs, the IBCs shall be carried in closed cargo transport units.	
B12	For UN 2907, IBCs shall meet the Packing Group II performance level. IBCs meeting the test criteria of Packing Group I shall not be used.	

IBC08	PACKING INSTRUCTION	IBC08

The following packagings are authorised, provided the general packing provisions of Chapter 5.1 are met.

(1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);

(2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);

(3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2);

(4) Fibreboard (11G);

(5) Wooden (11C, 11D and 11F);

(6) Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 and 13M2).

Special packing provisions

B2	For solid substances in IBCs other than metal or rigid plastics IBCs, the IBCs shall be transported in closed cargo transport units.
B3	Flexible IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner.
B4	Flexible, fibreboard or wooden IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner.

IBC99	PACKING INSTRUCTION	IBC99

Only IBCs which are approved for these goods by the Competent Authority may be used. A copy of the Competent Authority approval shall accompany each consignment or the transport document shall include an indication that the packaging was approved by the Competent Authority.

IBC100	PACKING INSTRUCTION	IBC100

This instruction applies to UN Nos 0082, 0241, 0331 and 0332.

The following packagings are authorised, provided the general and special packing provisions of Chapter 5.1 are met.

(1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);

(2) Flexible (13H2, 13H3, 13H4, 13L2, 13L3, 13L4 and 13M2);

(3) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);

(4) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2).

Additional requirements:

1. IBCs shall only be used for free-flowing substances.

2. Flexible IBCs shall only be used for solids.

Special packing provisions

B9	For UN 0082, this packing instruction may only be used when the substances are mixtures of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives shall not contain nitroglycerin, similar liquid organic nitrates, or chlorates. Metal IBCs are not authorised.
B10	For UN 0241, this packing instruction may only be used for substances which consist of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizing substances, some or all of which are in solution. The other constituents may include hydrocarbons or aluminium powder, but shall not include nitro-derivatives such as trinitrotoluene. Metal IBCs are not authorised.

A4.2

APPENDIX 4.2

TANK INSTRUCTIONS

NOTE:

This list of Instructions is essentially an adoption of the packing provisions contained in Chapter 6.7 of the ADG Code

4.2 Portable Tank Instructions and Special Provisions

(1) **General**

This Section includes the portable tank instructions and Special Provisions applicable to dangerous goods authorised to be transported in portable tanks. Each portable tank instruction is identified by an alpha-numeric designation (T1 to T75), however only T1, T2, T3, T4, T7 and T11 are allocated to goods contained in this Code. Column 10 of Appendix 2 of this Code indicates the portable tank instruction that shall be used for each substance permitted for transport in a portable tank. When no portable tank instruction appears in the List in Column 10, transport of the substance in portable tanks is not permitted unless a Competent Authority approval is granted. Portable tank Special Provisions are assigned to specific explosives and other related dangerous goods in Column 11 of Appendix 2. Each portable tank Special Provision is identified by an alpha-numeric designation (such as TP 1). A listing of the portable tank Special provisions is provided in this Appendix.

(2) **Portable Tank Instructions**

Portable tank instructions apply to dangerous goods of Classes 1 to 9. Portable tank instructions provide specific information relevant to portable tank provisions applicable to specific substances. These provisions shall be met in addition to the general provisions in this Appendix.

For substances of Class 1 and Classes 3 to 9, the portable tank instructions indicate the applicable minimum test pressure, the minimum shell thickness (in reference steel), bottom opening provisions and pressure-relief provisions.

(3) **Determination of the Appropriate Portable Tank Instructions**

When a specific portable tank instruction is specified in Appendix 2, additional portable tanks which possess higher test pressures, greater shell thicknesses, more stringent bottom opening and pressure-relief device arrangements may be used. The following guidelines apply to determining the appropriate portable tanks, which may be used for transport of particular substances:

Portable tank instruction specified	Portable tank instructions also permitted
T1	T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T2	T4, T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T3	T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T4	T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T5	T10, T14, T19, T20, T22
T6	T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T7	T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T8	T9, T10, T13, T14, T19, T20, T21, T22
T9	T10, T13, T14, T19, T20, T21, T22
T10	T14, T19, T20, T22
T11	T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T12	T14, T16, T18, T19, T20, T22
T13	T14, T19, T20, T21, T22
T14	T19, T20, T22
T15	T16, T17, T18, T19, T20, T21, T22
T16	T18, T19, T20, T22
T17	T18, T19, T20, T21, T22
T18	T19, T20, T22
T19	T20, T22
T20	T22
T21	T22
T22	None
T23	None
T50	None

(4) **Portable Tank Instructions**

Portable tank instructions specify the provisions applicable to a portable tank when used for the transport of specific substances. Portable tank instructions T1 to T22 specify the applicable minimum test pressure, the minimum shell thickness (in mm reference steel), and the pressure relief and bottom-opening provisions.

Note: *While not all these instructions are required under Appendix 2 all have been included to allow substitution of tank instructions as permitted by Section 4.2(3) above.*

A4.2

T1 - T22 PORTABLE TANK INSTRUCTIONS

These portable tank instructions apply to liquid and solid substances of Classes1 and 3 to 9. The general provisions of Section 6.7.2 of the ADG Code shall be met.

Note: *The Sections referred to in this Table are from the ADG Code and are reproduced in Addendum I to this Appendix.*

Portable tank instruction	Minimum test pressure (bar)	Minimum shell thickness (in mm - reference steel) (see 6.7.2.4)	Pressure-relief provisions* (see 6.7.2.8)	Bottom opening provisions (see 6.7.2.6)
T1	1.5	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T2	1.5	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T3	2.65	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T4	2.65	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T5	2.65	See 6.7.2.4.2	See 6.7.2.8.3	Not allowed
T6	4	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T7	4	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T8	4	See 6.7.2.4.2	Normal	Not allowed
T9	4	6 mm	Normal	Not allowed
T10	4	6 mm	See 6.7.2.8.3	Not allowed
T11	6	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T12	6	See 6.7.2.4.2	See 6.7.2.8.3	See 6.7.2.6.2
T13	6	6 mm	Normal	Not allowed
T14	6	6 mm	See 6.7.2.8.3	Not allowed
T15	10	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T16	10	See 6.7.2.4.2	See 6.7.2.8.3	See 6.7.2.6.2
T17	10	6 mm	Normal	See 6.7.2.6.2
T18	10	6 mm	See 6.7.2.8.3	See 6.7.2.6.2
T19	10	6 mm	See 6.7.2.8.3	Not allowed
T20	10	8 mm	See 6.7.2.8.3	Not allowed
T21	10	10 mm	Normal	Not allowed
T22	10	10 mm	See 6.7.2.8.3	Not allowed

** When the word "Normal" is indicated, all the provisions of Section 6.2.2.8 of the ADG Code apply, except where Section 6.7.2.8.3 is referred to.*

(5) **Portable Tank Special Provisions**

Portable tank Special Provisions are assigned to certain substances to indicate provisions which are in addition to, or in lieu of, those provided by the portable tank instructions or the provisions in Chapter 6.7 of the ADG Code. Portable tank Special Provisions are identified by an alpha-numeric designation beginning with the letters "TP" (tank provision) and are assigned to specific substances in Column 11 of Appendix 2 of this Code. The following is a list of the applicable portable tank Special Provisions:

TP1 The degree of filling prescribed in Section 5.9(3) of Chapter 5 shall not be exceeded, (these provisions are adopted from Section 4.2.1.9.2 of the ADG Code).

TP8 The test pressure for the portable tank may be reduced to 1.5 bar when the flashpoint of the substances transported is greater than 0°C.

TP9 A substance under this description shall only be transported in a portable tank under an approval granted by the Competent Authority.

TP16 The tank shall be fitted with a special device to prevent under-pressure and excess pressure during normal transport conditions. This device shall be approved by the Competent Authority. Pressure-relief provisions are as indicated in Section 6.7.2.8.3 of the ADG Code, (see Addendum I to this Appendix) to prevent crystallization of the product in the pressure-relief valve.

TP17 Only inorganic non-combustible materials shall be used for thermal insulation of the tank.

TP27 A portable tank having a minimum test pressure of 4 bar may be used if it is shown that a test pressure of 4 bar or less is acceptable according to the test pressure definition in Section 6.7.2.1 of the ADG Code.

TP32 For UN 0331, UN 0332 and UN 3375, portable tanks may be used subject to the following conditions:

(a) To avoid unnecessary confinement, each portable tank constructed of metal shall be fitted with a pressure relief device that may be of the reclosing spring loaded type, a frangible disc or a fusible element. The set to discharge or burst pressure, as applicable, shall not be greater than 2.65 bar for portable tanks with minimum test pressures greater than 4 bar.

(b) Suitability for transport in tanks shall be demonstrated. One method to evaluate this suitability is Test 8 (d) in Test Series 8 (see *UN Manual of Tests and Criteria*, Part 1, Sub-Section 18.7).

(c) Substances shall not be allowed to remain in the portable tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning, etc.).

TP33 The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point and which are cooled and transported as a solid mass.

A4.2-I

ADDENDUM I TO APPENDIX 4.2

1. Reproduction of Relevant Sections of Chapter 6.7 of the ADG Code

The text below provides the relevant text referred to in *Note 1* of Section 4.2. (4) of Appendix 4.2 of this Code as it relates to Tank instructions. For full details of the requirements, Chapter 6.7 of the ADG Code should be referenced.

Section 6.7.2.4.2

The cylindrical portions, ends (heads) and manhole covers of shells not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells more than 1.80m in diameter shall be not less than 6mm thick in the reference steel or of equivalent thickness in the metal to be used, except that for powdered or granular solid substances of Packing Group II or III the minimum thickness requirement may be reduced to not less than 5mm thick in the reference steel or of equivalent thickness in the metal to be used.

Section 6.7.2.6.2

Bottom discharge outlets for portable tanks carrying certain solid, crystallisable or highly viscous substances shall be equipped with not less than two serially fitted and mutually independent shut-off devices. The design of the equipment shall be to the satisfaction of the Competent Authority or its authorised body and shall include:

(a) an external stop-valve fitted as close to the shell as reasonably practicable; and

(b) a liquid-tight closure at the end of the discharge pipe, which may be a bolted blank flange or a screw cap.

Section 6.7.2.6.3

Every bottom discharge outlet, except as provided in Section 6.7.2.6.2 (as shown above), shall be equipped with three serially fitted and mutually independent shut-off devices. The design of the equipment shall be to the satisfaction of the Competent Authority or its authorised body and include:

(a) A self-closing internal stop-valve, that is a stop-valve within the shell or within a welded flange or its companion flange, such that:

  (i) the control devices for the operation of the valve are designed so as to prevent any unintended opening through impact or other inadvertent act;

  (ii) the valve may be operable from above or below;

  (iii) if possible, the setting of the valve (open or closed) shall be capable of being verified from the ground;

  (iv) except for portable tanks having a capacity of not more than 1,000 L, it shall be possible to close the valve from an accessible position of the portable tank that is remote from the valve itself; and

  (v) the valve shall continue to be effective in the event of damage to the external device for controlling the operation of the valve;

(b) An external stop-valve fitted as close to the shell as reasonably practicable; and

(c) A liquid-tight closure at the end of the discharge pipe, which may be a bolted blank flange or a screw cap.

Section 6.7.2.8.3

When required for certain substances by the applicable portable tank instruction identified in the Numerical List in Appendix 2 of this Code and described in Sections 4.2(2), 4.2(3) and 4.2(4) in Appendix 4.2 of this Code, portable tanks shall have a pressure relief device approved by the Competent Authority. Unless a portable tank in dedicated service is fitted with an approved relief device constructed of materials compatible with the load, the relief device shall comprise a frangible disc preceding a spring-loaded pressure relief device. When a frangible disc is inserted in series with the required pressure relief device, the space between the frangible disc and the pressure relief device shall be provided with a pressure gauge or suitable tell-tale indicator for the detection of disc rupture, pin-holing, or leakage which could cause a malfunction of the pressure relief system. The frangible disc shall rupture at a nominal pressure 10% above the start-to-discharge pressure of the relief device.

A4.3

APPENDIX 4.3

BULK CONTAINER INSTRUCTIONS

4.3 General Provisions

(1) These general provisions are applicable to the use of containers for the transport of solid substances in bulk. Substances shall be transported in closed bulk containers conforming to the applicable bulk container instruction identified by the code BK2 in Column 10 of the Numerical List in Appendix 2. The closed bulk container used shall conform to the requirements of Chapter 6.9 of the ADG Code.

(2) Except as provided in Section 4.3(3) of this Appendix, bulk containers shall only be used when a substance is assigned a bulk container code in Column 10 of the Numerical List in Appendix 2.

(3) When a substance is not assigned a bulk container code in Column 10 of the Numerical List in Appendix 2, interim approval for transport may be issued by the Competent Authority. The approval must be included in the documentation of the consignment and contain, as a minimum, the information normally provided in the bulk container instruction and the conditions under which the substance must be transported. Appropriate measures should be initiated by the Competent Authority to have the assignment included in the Numerical List in Appendix 2.

(4) Substances which may become liquid at temperatures likely to be encountered during transport are not permitted in bulk containers.

(5) Bulk containers must be sift-proof and must be so closed that none of the contents can escape under normal conditions of transport including the effect of vibration, or by changes of temperature, humidity or pressure.

(6) Bulk solids must be loaded into bulk containers and evenly distributed in a manner that minimises movement that could result in damage to the container or leakage of the explosives.

(7) Where venting devices are fitted, they must be kept clear and operable.

(8) Bulk solids must not react dangerously with the material of the bulk container, gaskets, equipment including lids and tarpaulins, or with protective coatings, which are in contact with the contents, or significantly weaken them. Bulk containers must be so constructed or adapted that the goods cannot penetrate between wooden floor coverings or come into contact with those parts of the bulk containers that may be affected by the explosives or residues thereof.

(9) Before being filled and offered for transport, each bulk container must be inspected and cleaned to ensure that it does not contain any residue on the interior or exterior that could:

(a) cause a dangerous reaction with the substance intended for transport;

(b) detrimentally affect the structural integrity of the bulk container; or

(c) affect the explosives retention capabilities of the bulk container.

(10) During transport, no dangerous residues must adhere to the outer surfaces of a bulk container.

(11) If several closure systems are fitted in series, the system which is located nearest to the dangerous goods to be transported must be closed first before filling.

(12) Empty bulk containers that have contained explosives must be treated in the same manner as is prescribed in this Code for a filled bulk container, unless adequate measures have been taken to nullify any hazard.

(13) If bulk containers are used for the carriage of bulk goods liable to cause a dust explosion, or evolve flammable vapours (e.g. for certain wastes), measures must be taken to exclude sources of ignition and to prevent dangerous electrostatic discharge during transport loading or unloading of the goods.

(14) Substances, for example wastes, which may react dangerously with one another and substances of different Classes and goods not subject to this Code, which are liable to react dangerously with one another must not be mixed together in the same bulk container. Dangerous reactions are:

(a) combustion and/or evolution of considerable heat;

(b) emission of flammable and/or toxic gases;

(c) formation of corrosive liquids; or

(d) formation of unstable substances.

(15) Before a bulk container is filled, it must be visually examined to ensure it is structurally serviceable, its interior walls, ceiling and floors are free from protrusions or damage and that any inner liners or substance retaining equipment are free from rips, tears or any damage that would compromise its cargo retention capabilities. Structurally serviceable means the bulk container does not have major defects in its structural components, such as top and bottom side rails, top and bottom end rails, door sill and header, floor cross members, corner posts, and corner fittings in a freight container. Major defects include:

(a) bends, cracks or breaks in the structural or supporting members that affect the integrity of the container;

(b) more than one splice or an improper splice (such as a lapped splice) in top or bottom end rails or door headers;

(c) more than two splices in any one top or bottom side rail;

(d) any splice in a door sill or corner post;

(e) door hinges and hardware that are seized, twisted, broken, missing, or otherwise inoperative;

(f) gaskets and seals that do not seal;

(g) any distortion of the overall configuration great enough to prevent proper alignment of handling equipment, mounting and securing chassis or vehicle, or insertion into ships' cargo spaces;

(h) any damage to lifting attachments or handling equipment interface features; or

(i) any damage to service or operational equipment.

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APPENDIX 5

GLOSSARY OF TERMS USED TO DESCRIBE SOME SUBSTANCES AND ARTICLES AND RELATED EXPRESSIONS

NOTES:

(1) Appendix 5 contains a Glossary of Terms used to describe some substances and articles and related expressions. The majority of entries in this Glossary are cross-referenced from Column 2 of Appendix 2 by a "†". This Glossary is adopted from Appendix B of the *UN Model Regulations, Fifteenth* revised edition.

(2) The headings used in this Appendix to describe some substances and articles and related expressions have been placed in alphabetical order (spaces are ignored).

(3) Those headings or that portion of a heading, being the terms used to describe some substances and articles and related expressions, which are in upper case, are in general, the Proper Shipping Name or that portion of a Proper Shipping Name that in Appendix 1 and/or Appendix 2 is in upper case; however in the instance of ANFO and EIDS the use of upper case indicates an acronym. Lower case is otherwise used throughout.

5.1 Glossary

Caution: The explanations and descriptions in this Glossary are for information only and are not intended to replace the test procedures, nor to determine the hazard classification of a substance or article of Class 1. Assignment to the correct Division and a decision on whether Compatibility Group S is appropriate must be based on testing of the product in accordance with the *UN Manual of Tests and Criteria*, Part 1, or by analogy with similar products which have already been tested and assigned in accordance with the procedures of the *UN Manual of Tests and Criteria*.

AIR BAG INFLATORS, pyrotechnic or AIR BAG MODULES, pyrotechnic or SEAT-BELT PRETENSIONERS, pyrotechnic
Articles which contain pyrotechnical substances and are used as life-saving, vehicle airbag, or seat-belt.

Ammunition
Generic term related mainly to articles of military application consisting of all kind of bombs, grenades, rockets, mines, projectiles and other similar devices or contrivances.

AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge
Ammunition designed to produce a single source of intense light for lighting up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs. The term excludes the following articles which are listed separately:

CARTRIDGES, SIGNAL;
FLARES, AERIAL;
FLARES, SURFACE;
SIGNAL DEVICES, HAND; and
SIGNALS, DISTRESS.

AMMUNITION, INCENDIARY
Ammunition containing incendiary substance which may be a solid, liquid, or gel, including white phosphorus. Except when the composition is an explosive per se, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes:

AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge;
AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge;
AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge.

AMMUNITION, PRACTICE
Ammunition without a main bursting charge, containing a burster or expelling charge. Normally it also contains a fuze and a propelling charge. The term excludes the following articles which are listed separately:

GRENADES, PRACTICE.

AMMUNITION, PROOF
Ammunition containing pyrotechnic substances, used to test the performance or strength of new ammunition, weapon component or assemblies.

AMMUNITION, SMOKE
Ammunition containing smoke-producing substance such as chlorosulfonic acid mixture, titanium tetrachloride or white phosphorus; or smoke-producing pyrotechnic composition based on hexachloroethane or red phosphorus. Except when the substance is an explosive per se, the ammunition also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes grenades, smoke but excludes SIGNALS, SMOKE which are listed separately. The term includes:

AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge;
AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge.

AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge
Ammunition containing tear-producing substance. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

AMMUNITION, TOXIC with burster, expelling charge or propelling charge
Ammunition containing toxic agent. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

ANE, Ammonium Nitrate Emulsion (UN3375) Ammonium nitrate, emulsion, suspension or gel, intermediate for blasting explosives (see, SP 309)

ANFO
ANFO, being the acronym for Ammonium Nitrate/Fuel Oil, is a mixture of ammonium nitrate and a fuel oil such as diesel fuel with or without a dye colouring agent. The ammonium nitrate prill (Explosive Grade) is porous enough to absorb diesel fuel and is mixed in the approximate proportion of 94% ammonium nitrate with 6% diesel fuel (by mass). Loosely poured ANFO has a density of 800–850 kilograms/cubic metre. It has no water resistance and must therefore only be used in dry conditions or bagged off. ANFO may be made by hand in situ, in a factory situation and bagged, or blended in situ, from a truck prior to loading into blast-holes.

A lower density ANFO may be produced when ammonium nitrate is blended with polystyrene beads or sawdust and vegetable or mineral oils. These oils are used in lieu of diesel fuel to prevent a breakdown of the polystyrene beads.

The Velocity of Detonation of ANFO varies with the density, blast-hole diameter and the moisture content, but normally will fire between 2000m/sec and 4000m/sec.

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ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)
Articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation (under normal conditions of transport) and which have passed Test Series 7.

ARTICLES, PYROPHORIC
Articles which contain a pyrophoric substance (capable of spontaneous ignition when exposed to air) and an explosive substance or component. The term excludes articles containing white phosphorus.

ARTICLES, PYROTECHNIC for technical purposes
Articles which contain pyrotechnic substances and are used for technical purposes such as heat generation, gas generation, theatrical effects, etc.. The term excludes the following articles, which are listed separately:

all ammunition;
CARTRIDGES, SIGNAL;
CUTTERS, CABLE, EXPLOSIVE;
FIREWORKS; FLARES, AERIAL;
FLARES, SURFACE;
RELEASE DEVICES, EXPLOSIVE;
RIVETS, EXPLOSIVE;
SIGNAL DEVICES, HAND;
SIGNALS, DISTRESS; SIGNALS, RAILWAY TRACK, EXPLOSIVE;
SIGNALS, SMOKE.

BLACK POWDER (GUNPOWDER)
Substance consisting of an intimate mixture of charcoal or other carbon and either potassium nitrate or sodium nitrate, with or without sulfur. It may be meal, granular, compressed or pelletised.

BOMBS
Explosive articles which are dropped from aircraft. They may contain a flammable liquid with bursting charge, a photo-flash composition or a bursting charge. The term excludes torpedoes (aerial) and includes:

BOMBS, PHOTO-FLASH;
BOMBS with bursting charge;
BOMBS WITH FLAMMABLE LIQUID with bursting charge.

BOOSTERS
Articles consisting of a charge of detonating explosive with or without means of initiation. They are used to increase the initiating power of detonators or detonating cord.

BURSTERS, explosive
Articles consisting of a small charge of explosive used to open projectiles or other ammunition in order to disperse their contents.

Cartridges, blank
Articles which consist of a cartridge case with a centre or rim fire primer and a confined charge of smokeless or black powder but no projectile. Used for training, saluting or in starter pistols, etc..

CARTRIDGES, FLASH
Articles consisting of a casing, a primer and flash powder, all assembled in one piece ready for firing.

CARTRIDGES FOR WEAPONS

(1) Fixed (assembled) or semi-fixed (partially-assembled) ammunition designed to be fired from weapons. Each cartridge includes all the components necessary to function the weapon once. The name and description must be used for small arms cartridges that cannot be described as "cartridges, small arms". Separate loading ammunition is included under this name and description when the propelling charge and projectile are packed together (see also "Cartridges, blank").

(2) Incendiary, smoke, toxic and tear-producing cartridges are described in this Glossary under AMMUNITION, INCENDIARY etc.

CARTRIDGES FOR WEAPONS, INERT PROJECTILE

Ammunition consisting of a projectile without bursting charge but with a propelling charge. The presence of a tracer can be disregarded for classification purposes provided that the predominant hazard is that of the propelling charge.

CARTRIDGES, OIL WELL

Articles consisting of a casing of thin fibre, metal or other material containing only propellant which projects a hardened projectile. The term excludes the following articles which are listed separately:

CHARGES, SHAPED.

CARTRIDGES, POWER DEVICE

Articles designed to accomplish mechanical actions. They consist of a casing with a charge of deflagrating explosive and a means of ignition. The gaseous products of the deflagration produce inflation, or linear or rotary motion, or activate diaphragms, valves or switches or project fastening devices or extinguishing agents.

CARTRIDGES, SIGNAL

Articles designed to fire coloured flares or other signals from signal pistols, etc.

CARTRIDGES, SMALL ARMS

Ammunition consisting of a cartridge case fitted with a centre or rim fire primer and containing both a propelling charge and a solid projectile. They are designed to be fired in weapons of calibre not larger than 19.1mm. Shot-gun cartridges of any calibre are included in this description. The term excludes CARTRIDGES, SMALL ARMS, BLANK listed separately in Appendices 1 and 2, and some small arms cartridges which are listed under CARTRIDGES FOR WEAPONS, INERT PROJECTILE.

CASES, CARTRIDGE, EMPTY, WITH PRIMER

Articles consisting of a cartridge case made from metal, plastics or other non-flammable material, in which the only explosive component is the primer.

CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER

Articles consisting of cartridge cases made partly or entirely from nitrocellulose.

Charges, bursting

Articles consisting of a charge of detonating explosive such as hexolite, octolite or plastics bonded explosive designed to produce effect by blast or fragmentation.

CHARGES, DEMOLITION

Articles containing a charge of a detonating explosive in a casing of fibreboard, plastics, metal or other material. The term excludes the following articles which are listed separately: bombs, mines, etc.

CHARGES, DEPTH

Articles consisting of a charge of detonating explosive contained in a drum or projectile. They are designed to detonate under water.

Charges, expelling

A charge of deflagrating explosive designed to eject the payload from the parent articles without damage.

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CHARGES, EXPLOSIVE, COMMERCIAL without detonator
Articles consisting of a charge of detonating explosive without means of initiation, used for explosive welding, jointing, forming and other metallurgical processes.

CHARGES, PROPELLING
Articles consisting of a propellant charge in any physical form, with or without a casing, for use as a component of rocket motors or for reducing the drag of projectiles.

CHARGES, PROPELLING FOR CANNON
Articles consisting of a propellant charge in any physical form, with or without a casing, for use in a cannon.

CHARGES, SHAPED, FLEXIBLE, LINEAR
Articles consisting of a V-shaped core of a detonating explosive clad by a flexible metal sheath.

CHARGES, SHAPED, without detonator
Articles consisting of a casing containing a charge of detonating explosive with a cavity lined with rigid material, without means of initiation. They are designed to produce a powerful, penetrating jet effect.

CHARGES, SUPPLEMENTARY, EXPLOSIVE
Articles consisting of a small removable booster used in the cavity of a projectile between the fuse and the bursting charge.

CompatibilityGroup
Those groups of explosives which can be stowed or carried together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident. On this criterion, explosives have been divided into a number of Compatibility Groups, each denoted by a code letter from A to L (excluding I), N and S.

COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
Articles containing an explosive designed to transmit the detonation or deflagration within an explosive train.

CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge
Articles whose functioning depends upon physio-chemical reaction of their contents with water.

CORD, DETONATING, flexible
Article consisting of a core of detonating explosive enclosed in spun fabric, with plastics or other covering unless the spun fabric is sift-proof.

CORD (FUSE), DETONATING, metal clad
Article consisting of a core of detonating explosive clad by a soft metal tube with or without protective covering. When the core contains a sufficiently small quantity of explosive, the words “MILD EFFECT” are added.

CORD, IGNITER
Article consisting of textile yarns covered with black powder or another fast burning pyrotechnic composition and of a flexible protective covering; or it consists of a core of black powder surrounded by a flexible woven fabric. It burns progressively along its length with an external flame and is used to transmit ignition from a device to a charge or primer.

CUTTERS, CABLE, EXPLOSIVE
Articles consisting of a knife-edged device which is driven by a small charge of deflagrating explosive into an anvil.

Detonating Explosive
A substance which reacts by detonation rather than deflagration when initiated and used in its normal manner.

DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting
Non-electric detonators assembled with and activated by such means as safety fuse, shock tube, flash tube or detonating cord. They may be of instantaneous design or incorporate delay elements. Detonating relays incorporating detonating cord are included. Other detonating relays are included in "Detonators, non-electric".

Detonators
Articles consisting of a small metal or plastics tube containing explosives such as lead azide, PETN or combinations of explosives. They are designed to start a detonation train. They may be constructed to detonate instantaneously, or may contain a delay element. The term includes:

DETONATORS FOR AMMUNITION;
DETONATORS for blasting, both ELECTRIC and NON-ELECTRIC;
Detonating relays without flexible detonating cord are included.

En masse
A term used to describe an explosion which affects almost the entire load virtually instantaneously.

Entire load* and *total contents
The phrases "entire load" and "total contents" mean such a substantial proportion that the practical hazard shall be assessed by assuming simultaneous explosion of the whole of the explosive content of the load or package.

Explode
The verb used to indicate those explosive effects capable of endangering life and property through blast, heat and projection of missiles. It encompasses both deflagration and detonation.

Explosion of the total contents
The phrase "explosion of the total contents" is used in testing a single article or package or a small stack of articles or packages.

Explosive article
Refer to Section 2(c) of Addendum I to Appendix 2.

Explosive, blasting
Detonating explosive substances used in mining, construction and similar tasks. Blasting explosives are assigned to one of five types. In addition to the ingredients listed, blasting explosives may also contain inert components such as kieselguhr, and minor ingredients such as colouring agents and stabilisers.

EXPLOSIVE, BLASTING, TYPE A
Substances consisting of liquid organic nitrates such as nitroglycerin or a mixture of such ingredients with one or more of the following: nitrocellulose; ammonium nitrate or other inorganic nitrates; aromatic nitro-derivatives, or combustible materials, such as wood-meal and aluminium powder. Such explosives shall be in powdery, gelatinous or elastic form.

The term includes dynamite gelatine, blasting and gelatine dynamites.

EXPLOSIVE, BLASTING, TYPE B
Substances consisting of (a) a mixture of ammonium nitrate or other inorganic nitrates with an explosive such as trinitrotoluene, with or without other substances such as wood-meal and aluminium powder, or
(b) a mixture of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives must not contain nitroglycerin, similar liquid organic nitrates, or chlorates.

EXPLOSIVE, BLASTING, TYPE C
Substances consisting of a mixture of either potassium or sodium chlorate or potassium, sodium or ammonium perchlorate with organic nitro-derivatives or combustible materials such as wood-meal or aluminium powder or a hydrocarbon. Such explosives must not contain nitroglycerin or similar liquid organic nitrates.

EXPLOSIVE, BLASTING, TYPE D
Substances consisting of a mixture of organic nitrated compounds and combustible materials such as hydrocarbons and aluminium powder. Such explosives must not contain nitroglycerin, similar liquid organic nitrates, chlorates or ammonium nitrate. The term generally includes plastic explosives.

EXPLOSIVE, BLASTING, TYPE E
Substances consisting of water as an essential ingredient and high proportions of ammonium nitrate or other oxidisers, some or all of which are in solution. The other constituents may include nitro-derivatives such as trinitrotoluene, hydrocarbons or aluminium powder.

The term includes; explosives, emulsion; explosives, slurry; explosives, suspension and explosives, watergel.

Explosive, deflagrating
A substance, e.g. propellant, which reacts by deflagration rather than detonation when ignited and used in its normal manner.

Explosive, detonating
See Detonating Explosive.

Explosive, extremely insensitive detonating substance (EIDS)
A substance which, although capable of sustaining a detonation, has demonstrated through tests that it is so insensitive that there is very little probability of accidental initiation.

Explosive, primary
Explosive substance manufactured with a view to producing a practical effect by explosion which is very sensitive to heat, impact or friction and which, even in very small quantities, either detonates or burns very rapidly. It is able to transmit detonation (in the case of initiating explosive) or deflagration to secondary explosives close to it. The main primary explosives are tetrazene, mercury fulminate, lead azide and lead styphnate.

Explosive, secondary
Explosive substance which is relatively insensitive (when compared to primary explosives), which is usually initiated by primary explosives with or without the aid of boosters or supplementary charges. Such an explosive may react as a deflagrating or as a detonating explosive.

Explosive substance
Refer to 2(a) of Addendum I to Appendix 2.

FIREWORKS
Pyrotechnic articles designed for entertainment.

FLARES means, articles containing pyrotechnic substances, which are designed for use to illuminate, identify, signal or warn. The term includes: FLARES, AERIAL; and FLARES, SURFACE.

FLASH POWDER
Pyrotechnic substance which, when ignited, produces an intense light. Refer also to Section 10, *Note 3* of Addendum 1 to Appendix 2.

FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells
Articles consisting of a charge of detonating explosive contained in a casing without means of initiation. They are used to fracture the rock around a drill shaft to assist the flow of crude oil from the rock.

Fuse/Fuze
Although these two words have a common origin (French fusée, fusil) and are sometimes considered to be different spellings, it is useful to maintain, in the English language, the convention that fuse refers to a cord-like igniting device whereas fuze refers to a device used in ammunition which incorporates mechanical, electrical, chemical or hydrostatic components to initiate a train by deflagration or detonation.

FUSE, IGNITER, tubular, metal clad
Article consisting of a metal tube with a core of deflagrating explosive.

FUSE, NON-DETONATING (Quickmatch)
Article consisting of cotton yarns impregnated with fine black powder (Quickmatch). It burns with an external flame and is used in ignition trains for fireworks, etc...

FUSE, SAFETY
Article consisting of a core of fine grained black powder surrounded by a flexible woven fabric with one or more protective outer coverings. When ignited, it burns at a predetermined rate without any external explosive effect.

Fuzes
Articles designed to start a detonation or a deflagration in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components and generally protective features. The term includes:

FUZES, DETONATING;
FUZES, DETONATING with protective features;
FUZES, IGNITING.

GRENADES, hand or rifle
Articles which are designed to be thrown by hand or to be projected by a rifle. The term includes:

GRENADES, hand or rifle, with bursting charge;
GRENADES, PRACTICE, hand or rifle.
The term excludes grenades, smoke which are listed under AMMUNITION, SMOKE.

IGNITERS
Articles containing one or more explosive substances used to start deflagration in an explosive train. They may be actuated chemically, electrically or mechanically. This term excludes the following articles which are listed separately:

CORD, IGNITER;
FUSE, IGNITER;
FUSE, NON-DETONATING;
FUZES, IGNITING;
LIGHTERS, FUSE;
PRIMERS, CAP TYPE; PRIMERS, TUBULAR.

Ignition, means of
A general term used in connection with the method employed to ignite a deflagrating train of explosive or pyrotechnic substances (for example: a primer for a propelling charge; an igniter for a rocket motor; an igniting fuze).

Initiation, means of
(1) A device intended to cause the detonation of an explosive (for example: detonator; detonator for ammunition; detonating fuze).

(2) The term “with its own means of initiation” means that the contrivance has its normal initiating device assembled to it and this device is considered to present a significant risk during transport but not one great enough to be unacceptable. The term does not apply, however, to a contrivance packed together with its means of initiation provided the device is packaged so as to eliminate the risk of causing detonation of the contrivance in the event of accidental functioning of the initiating device. The means of initiating can even be assembled to the contrivance provided there are protective features such that the device is very unlikely to cause detonation of the contrivance in conditions which are associated with transport.

(3) For the purposes of classification any means of initiation without two effective protective features must be regarded as Compatibility Group B; an article with its own means of initiation, without two effective protective features, would be Compatibility Group F. On the other hand, a means of initiation which itself possesses two effective protective features would be Compatibility Group D;

Initiation, means of *(continued)*

and an article with a means of initiation which possesses two effective protective features would be Compatibility Group D or E.

Means of initiation adjudged as having two effective protective features shall have been approved by the appropriate Competent Authority. A common and effective way of achieving the necessary degree of protection is to use a means of initiation which incorporates two or more independent safety features.

Initiatory compositions
Initiatory compositions are physical mixtures of two or more ingredients which include highly sensitive chemicals such as; lead azide; silver azide; mercury fulminate; lead styphnate; tetrazene; heavy metal salts of 5-nitrotetrazole; lead 2, 4-dinitroresorcinate; and diazodinitrophenol. These mixtures are very sensitive to one or more stimuli such as heat, impact, percussion, electric charge and friction. They are used mainly in cap type primers and detonators to initiate an explosive event after being subjected to such stimuli.

JET PERFORATING GUNS, CHARGED, oil well, without detonator
Articles consisting of a steel tube or metallic strip, into which are inserted shaped charges connected by detonating cord, without means of initiation.

LIGHTERS, FUSE
Articles of various design actuated by friction, percussion, electricity or external flame source (i.e. a match) and used to ignite safety fuse.

LOX means Liquid Oxygen Explosives

Mass explosion
Explosion which affects almost the entire load virtually instantaneously.

MINES
Articles consisting normally of metal or composition receptacles and a bursting charge. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes “Bangalore torpedoes”.

NEC
See Net Explosives Content.

NEQ
See Net Explosives Quantity.

Net Explosive Content
The actual quantity, expressed by mass, of explosive substance in an article, package or container. (synonymous with Net Explosive Quantity)

Net Explosive Quantity [refer to Definitions where applicable]
The actual quantity, expressed by mass, of explosive substance in an article, package or container (synonymous with Net Explosive Content).

NTO means, Nitrotriazolone

PLASTIC EXPLOSIVE
means, an explosive product (including an explosive product in flexible or elastic sheet form) that is:

(a) formulated with:

(i) one or more high explosives which in their pure form have a vapour pressure less than 10^4 Pa at a temperature of 25ºC; and

***Plastic Explosive** (continued)*

(ii) a binder material.

(b) as a mixture, malleable or flexible at normal room temperature.

POWDER CAKE (POWDER PASTE), WETTED

Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerin or other liquid organic nitrates or a mixture of these.

POWDER, SMOKELESS

Substance based on nitrocellulose used as propellant. The term includes propellants with a single base (nitrocellulose (NC) alone), those with a double base (such as NC and nitroglycerin (NG)) and those with a triple base (such as NC/NG/nitroguanidine). Cast, pressed or bag-charges of smokeless powder are listed under "CHARGES, PROPELLING" or "CHARGES, PROPELLING FOR CANNON".

PRIMERS, CAP TYPE

Articles consisting of a metal or plastics cap containing a small amount of primary explosive mixture that is readily ignited by impact. They serve as igniting elements in small arms cartridges, and in percussion primers for propelling charges.

PRIMERS, TUBULAR

Articles consisting of a primer for ignition and an auxiliary charge of deflagrating explosive such as black powder used to ignite the propelling charge in a cartridge case for cannon, etc...

PROJECTILES

Articles such as a shell or bullet, which are projected from a cannon or other artillery gun, rifle or other small arm. They may be inert, with or without tracer, or may contain a burster or expelling charge or a bursting charge. The term includes:

PROJECTILES, inert, with tracer;
PROJECTILES with burster or expelling charge;
PROJECTILES with bursting charge.

PROPELLANTS

Deflagrating explosive used for propulsion or for reducing the drag of projectiles.

PROPELLANTS, LIQUID

Substances consisting of a deflagrating liquid explosive, used for propulsion.

PROPELLANTS, SOLID

Substances consisting of a deflagrating solid explosive, used for propulsion.

Pyrotechnic article

An article containing one or more pyrotechnic substances.

Pyrotechnic substance

Refer to 2(b) of Addendum I to Appendix 2.

RELEASE DEVICES, EXPLOSIVE

Articles consisting of a small charge of explosive with means of initiation. They sever rods or links to release equipment quickly.

RIVETS, EXPLOSIVE

Articles consisting of a small charge of explosive inside a metallic rivet.

Rocket, model

A rocket that is propelled by a model rocket motor and contains a device for returning it to the ground in a condition to fly again, whose structural parts are made of paper, wood, or breakable plastics and contain no substantial metal parts, and whose primary use is for purposes of education, recreation, and sporting competition.

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ROCKET MOTORS
Articles consisting of a solid, liquid or hypergolic fuel contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile. The term includes:
ROCKET MOTORS;
ROCKET MOTORS, LIQUID FUELLED;
ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge.

ROCKETS
Articles consisting of a rocket motor and a payload which may be an explosive warhead or other device. The term includes guided missiles and:

ROCKETS, LINE-THROWING;
ROCKETS, LIQUID FUELLED with bursting charge;
ROCKETS with bursting charge;
ROCKETS with expelling charge; and
ROCKETS with inert head.

SAMPLES, EXPLOSIVE, other than initiating explosive
New or existing explosive substances or articles, not yet assigned to a name and carried in conformity with the instructions of the Competent Authority and generally in small quantities, inter alia, for the purposes of testing, classification, research and development, or quality control, or as commercial samples. Also refer to SP16 in Appendix 3.

SIGNALS
Articles containing pyrotechnic substances designed to produce signals by means of sound, flame or smoke or any combinations thereof. The term includes:

SIGNAL DEVICES, HAND;
SIGNALS, DISTRESS, ship;
SIGNALS, RAILWAY TRACK, EXPLOSIVE;
SIGNALS, SMOKE.

SOUNDING DEVICES, EXPLOSIVE
Articles consisting of a charge of detonating explosive. They are dropped from ships and function when they reach a predetermined depth or the sea-bed.

STABILISED
Stabilised means that the substance is in a condition that precludes uncontrolled reaction. This may be achieved by methods such as the addition of an inhibiting chemical, degassing the substance to remove dissolved oxygen and inerting the air space in the package, or maintaining the substance under temperature control.

SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.
Substances which present a mass explosion hazard but which are so insensitive that there is very little probability of initiation, or of transition from burning to detonation (under normal conditions of transport) and which have passed Test Series 5 of the *UN Manual of Tests and Criteria*.

TORPEDOES
Articles containing an explosive or non-explosive propulsion system and designed to be propelled through water. They may contain an inert head or a warhead. The term includes:

TORPEDOES, LIQUID FUELLED with inert head;
TORPEDOES, LIQUID FUELLED with or without bursting charge;
TORPEDOES with bursting charge.

TRACERS FOR AMMUNITION
Sealed articles containing pyrotechnic substances, designed to reveal the trajectory of a projectile.

Warheads
Articles consisting of detonating explosives. They are designed to be fitted to a rocket, guided missile or torpedo. They may contain a burster or expelling charge or bursting charge. The term includes:

WARHEADS, ROCKET with burster or expelling charge;
WARHEADS, ROCKET with bursting charge; WARHEADS,
TORPEDO with bursting charge.

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APPENDIX 6

LIST OF GENERIC OR N.O.S. PROPER SHIPPING NAMES

NOTES:

(1) Substances or articles not mentioned specifically by name in the Numerical List in Appendix 2 of this Code shall be classified in accordance with Addendum I of Appendix 2. Thus the name in Appendix 2 which most appropriately describes the substance or article shall be used as the Proper Shipping Name. The main generic entries and all the N.O.S. entries given in Appendix 2 are listed below. This Proper Shipping Name shall be supplemented by the technical name when Special Provision 274 has been assigned to the entry in Column 6 of Appendix 2.

(2) In this list, generic and N.O.S. PROPER SHIPPING NAMES are grouped according to their Division. Within each Division the names have been placed into alpha/numero order being their Classification Code/UN Number order. (The existence of a Subsidiary Risk does not affect the order.)

(3) This List is adopted from Appendix A of the *UN Model Regulations*, Fifteenth revised edition.

THE MOST SPECIFIC APPLICABLE NAME SHOULD ALWAYS BE USED.

Class or Division	Subsidiary Risk	UN Number	Proper Shipping Name
CLASS 1			
1		0190	SAMPLES, EXPLOSIVE, other than initiating explosive
Division 1.1			
1.1A		0473	SUBSTANCES, EXPLOSIVE, N.O.S.
1.1B		0461	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.1C		0462	ARTICLES, EXPLOSIVE, N.O.S.
1.1C		0474	SUBSTANCES, EXPLOSIVE, N.O.S.
1.1C		0497	PROPELLANT, LIQUID
1.1C		0498	PROPELLANT, SOLID
1.1D		0463	ARTICLES, EXPLOSIVE, N.O.S.
1.1D		0475	SUBSTANCES, EXPLOSIVE, N.O.S.
1.1E		0464	ARTICLES, EXPLOSIVE, N.O.S.
1.1F		0465	ARTICLES, EXPLOSIVE, N.O.S.
1.1G		0476	SUBSTANCES, EXPLOSIVE, N.O.S.
1.1L		0354	ARTICLES, EXPLOSIVE, N.O.S.
1.1L		0357	SUBSTANCES, EXPLOSIVE, N.O.S.

Class or Division	Subsidiary Risk	UN Number	Proper Shipping Name
Division 1.2			
1.2B		0382	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.2C		0466	ARTICLES, EXPLOSIVE, N.O.S.
1.2D		0467	ARTICLES, EXPLOSIVE, N.O.S.
1.2E		0468	ARTICLES, EXPLOSIVE, N.O.S.
1.2F		0469	ARTICLES, EXPLOSIVE, N.O.S.
1.2K	6.1	0020	AMMUNITION, TOXIC, with burster, expelling charge or propelling charge
1.2L		0248	CONTRIVANCES, WATER-ACTIVATED, with burster, expelling charge or propelling charge
1.2L		0355	ARTICLES, EXPLOSIVE, N.O.S.
1.2L		0358	SUBSTANCES, EXPLOSIVE, N.O.S.
Division 1.3			
1.3C		0132	DEFLAGRATING METAL SALTS OF AROMATIC NITRO-DERIVATIVES, N.O.S.
1.3C		0470	ARTICLES, EXPLOSIVE, N.O.S.
1.3C		0477	SUBSTANCES, EXPLOSIVE, N.O.S.
1.3C		0495	PROPELLANT, LIQUID
1.3C		0499	PROPELLANT, SOLID
1.3G		0478	SUBSTANCES, EXPLOSIVE, N.O.S.
1.3K	6.1	0021	AMMUNITION, TOXIC, with burster, expelling charge or propelling charge
1.3L		0249	CONTRIVANCES, WATER-ACTIVATED, with burster, expelling charge or propelling charge
1.3L		0356	ARTICLES, EXPLOSIVE, N.O.S.
1.3L		0359	SUBSTANCES, EXPLOSIVE, N.O.S.
Division 1.4			
1.4B		0350	ARTICLES, EXPLOSIVE, N.O.S.
1.4B		0383	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.4C		0351	ARTICLES, EXPLOSIVE, N.O.S.
1.4C		0479	SUBSTANCES, EXPLOSIVE, N.O.S.
1.4C		0501	PROPELLANT, SOLID
1.4D		0352	ARTICLES, EXPLOSIVE, N.O.S.
1.4D		0480	SUBSTANCES, EXPLOSIVE, N.O.S.
1.4E		0471	ARTICLES, EXPLOSIVE, N.O.S.
1.4F		0472	ARTICLES, EXPLOSIVE, N.O.S.
1.4G		0353	ARTICLES, EXPLOSIVE, N.O.S.
1.4G		0485	SUBSTANCES, EXPLOSIVE, N.O.S.
1.4S		0349	ARTICLES, EXPLOSIVE, N.O.S.
1.4S		0384	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.4S		0481	SUBSTANCES, EXPLOSIVE, N.O.S.
Division 1.5			
1.5D		0482	SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES EVI), N.O.S.

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Class or Division	Subsidiary Risk	UN Number	Proper Shipping Name
Division 1.6			
1.6N		0486	ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES EEI)
OTHER CLASSES OF DANGEROUS GOODS			
CLASS 3			
3		3343	NITROGLYCERIN MIXTURE, DESENSITISED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass.
3		3357	NITROGLYCERIN MIXTURE, DESENSITISED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass.
3		3379	DESENSITISED EXPLOSIVE, LIQUID, N.O.S.
CLASS 4.1			
4.1		3319	NITROGLYCERIN MIXTURE, DESENSITISED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass
4.1		3344	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITISED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass.
4.1		3380	DESENSITISED EXPLOSIVE, SOLID, N.O.S.
CLASS 5.1			
5.1		1479	OXIDISING SOLID, N.O.S.
5.1		3139	OXIDISING LIQUID, N.O.S.

APPENDIX 7

HAZCHEM CODES

NOTES:

(1) The Hazchem Code is fully titled "Hazchem Emergency Action Code". In European publications, it is now frequently referred to simply as "Emergency Action Code" or "EAC".

(2) Further detail on the allocation of Hazchem Codes may be found in the ADG Code.

1. General

(1) A Hazchem Code reflects the initial emergency response recommended in a dangerous situation such as leakage, spillage or fire involving the dangerous goods to which it relates. It offers guidance only on emergency responses.

(2) A Hazchem Code is required to be displayed on tanks, IBCs and/or vehicles when conveying dangerous goods of Class 1, as required by Section 3.7.2 of this Code.

(3) The Hazchem Code is composed of a number, followed by one or more letters as detailed in Appendix C, C2.2–C2.6 of the ADG Code.

2. Hazchem Code Allocation to Explosives

(1) Because of the unacceptable risk in fighting a fire involving most types of explosives, it is not appropriate to assign a Hazchem Code other than "**E**". The table below shall be used to determine the appropriate Hazchem Code, if any, for the load.

Division Assigned to the Load	Hazchem Code to be Assigned
1.1	E
1.2	E
1.3	E
1.4	1YE
1.5	E
1.6	E

(2) Where '**E**' alone is quoted as a Hazchem Code, fire fighting is considered inappropriate. The evacuation procedures in the Emergency Procedure Guide should be followed.

3. Extinguishing Media

(1) The firefighting extinguishing media is determined by reference to the first character of the Hazchem Code as follows:

1 denotes coarse water spray
2 denotes fine water spray
3 denotes normal foam – i.e. protein based foam that is not alcohol resistant
4 denotes dry agent - water MUST NOT be allowed to come into contact with substance.

Note: *Any higher number than the one shown can be used but a lower number* ***must not*** *be used.*

(2) The table below shows the meaning of each of the letters used in the second part of the Hazchem Code. The letters indicate the precautions to be taken in the event of a fire or spillage.

Letter	Risk of Violent Reaction or Explosion	Recommended Personal Protective Equipment	Appropriate Measures
P	Yes	Liquid–tight chemical protective clothing and breathing apparatus	Dilute
R	No		
S	Yes	Full fire kit and breathing apparatus	
T	No		
W	Yes	Liquid-tight chemical protective clothing and breathing apparatus	Contain
X	No		
Y	Yes	Full fire kit and breathing apparatus	
Z	No		

Note: *For further details refer to Sections 2 to 6 of this Appendix.*

4. Personal Protection

Where the second character of the Hazchem Code is S, T, Y or Z, normal firefighting clothing is appropriate, i.e. self-contained open circuit positive pressure compressed air breathing apparatus, worn in combination with fire kit, firefighters gloves and firefighters' boots.

Where the second character of the Hazchem Code is P, R, W or X, liquid-tight chemical protective clothing in combination with breathing apparatus should be used.

Note 1: *Leather boots may not provide adequate chemical resistance and therefore caution should be exercised in their use.*

Note 2: *Letters S, T, Y and Z, which in previous editions of this Code were shown in reverse printing or square brackets for some dangerous goods, are now always shown in normal print, indicating that breathing apparatus should be used for all significant incidents.*

5. Violent Reaction

Where the second character of the Hazchem Code is a P, S, W or Y there is a danger that the substance can be violently or explosively reactive. This danger may be present due to one of the following:

(a) Violent or explosive decomposition of the material involved, including ignition or friction.

(b) The ignition of a flammable gas or vapour cloud (this danger exists for all flammable gases and flammable liquids with a flash point below 60.5 °C.

(c) The rapid acceleration of combustion due to the involvement of an oxidiser.

(d) A reaction with water which is itself violent, and may also evolve flammable gases.

The actual dangers present can be determined from the placards on vehicles or containers, or by reference to the Classes, Divisions and Subsidiary Risks shown on the transport document.

6. Contain/Dilute

Where the second character of the Hazchem Code is W, X, Y or Z spillages and decontamination run-off should be prevented from entering drains and watercourses. Where the second character of the code is P, R, S or T spillages and decontamination run-off may be washed to drains with large quantities of water. Due care must however still be exercised to avoid unnecessary pollution of watercourses.

Note: *Ideally most contamination and decontamination run-off should be contained. However, this will not always be practical for normal emergency services operations, as life saving operational procedures must take precedence over other considerations at the scene of an incident. Nevertheless, all steps that are reasonably practicable should be taken to contain contaminants and the emergency service should always inform the environmental authority as soon as possible so that appropriate advice can be given.*

7. "E" Evacuation

As indicated in 2 (2) above, where '**E**' alone is quoted as the Hazchem Code, fire fighting is considered inappropriate. The evacuation procedures in the Emergency Procedure Guide should be followed.

An '**E**' following the first two characters of the Hazchem Code indicates that there may be a public safety hazard outside the immediate area of the incident, and that the following actions should be considered:

(a) People should be warned to stay indoors with all doors and windows closed, preferably in rooms upstairs and facing away from the incident. Ignition sources should be eliminated and any ventilation stopped.

(b) Effects may spread beyond the immediate vicinity. All non-essential personnel should be instructed to move at least 250 metres away from the incident. Police and Fire Brigade incident commanders should consult each other and with a product expert, or with a source of product expertise.

(c) The possible need for subsequent evacuation should be considered, but it should be remembered that in most cases it will be safer to remain in a building than to evacuate. Some situations where evacuation may be necessary are listed in the following table.

EXAMPLES	**ASSESSMENT**
1.(i) Smoke from product fire which is allowed to burn out. (Often safest and least environmentally damaging option.) (ii) Small/low concentration long lasting toxic emission.	1. Nuisance effects will last several hours. Smoke or gas concentrations in open air are unpleasant but short-term exposure is not likely to be dangerous.
2. A larger long lasting toxic gas emission which will be carried towards an inhabited area after a predicted wind change not due for at least two hours.	2. Area considered for evacuation will not be exposed to significant danger for at least an hour, preferably longer.
3. Evacuation of people from an isolated house in the country may be feasible, possibly using additional BA sets.	3. Downwind area is very sparsely populated and resources are available to protect people during their evacuation.
4.(i) Righting a loaded road tanker or rail tank wagon, especially one carrying a liquefied gas. (ii) Recovering or clearing petrol from drains.	4. Area considered for evacuation could be exposed to danger as a result of actions necessary to restore normality at a time determined by the recovery team.

APPENDIX 8

LIST OF SUBSTANCES AND ARTICLES AGAINST THEIR CLASSIFICATION CODE

NOTE:

In this list, substances and articles of the same Classification Code have been placed in increasing UN Number order.

UN Number	Proper Shipping Name of the Substance or Article	Classification Code
	SUBSTANCES CLASSIFIED AS 1.1A † * Carriage only with the approval of the Competent Authority	
0074	DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass * ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1A
0113	GUANYL NITROSAMINOGUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass * ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1A
0114	GUANYL NITROSAMINOGUANYLTETRAZENE (TETRAZENE), WETTED with not less than 30% water, or mixture of alcohol and water, by mass * ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1A
0129	LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass * ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1A
0130	LEAD STYPHNATE (LEAD TRINITRORESORCINATE) WETTED, with not less than 20% water, or mixture of alcohol and water, by mass * ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1A
0135	MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass * ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1A
0224	BARIUM AZIDE, dry or wetted with less than 50% water, by mass *	1.1A
0473	SUBSTANCES, EXPLOSIVE, N.O.S. *	1.1A
	ARTICLES CLASSIFIED AS 1.1B	
0029	DETONATORS, NON-ELECTRIC for blasting	1.1B
0030	DETONATORS, ELECTRIC for blasting	1.1B
0073	DETONATORS FOR AMMUNITION	1.1B
0106	FUZES, DETONATING	1.1B
0225	BOOSTERS WITH DETONATOR	1.1B
0360	DETONATOR ASSEMBLIES, NON-ELECTRIC, for blasting	1.1B
0377	PRIMERS, CAP TYPE	1.1B
0461	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.1B

	SUBSTANCES CLASSIFIED AS 1.1C	
0160	POWDER, SMOKELESS	1.1C
0433	POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1C
0474	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1C
0497	PROPELLANT, LIQUID ***NOTE:*** *Refer also to Special Provision 224 in Appendix 3.*	1.1C
0498	PROPELLANT, SOLID	1.1C
	ARTICLES CLASSIFIED AS 1.1C	
0271	CHARGES, PROPELLING	1.1C
0279	CHARGES, PROPELLING, FOR CANNON	1.1C
0280	ROCKET MOTORS	1.1C
0326	CARTRIDGES FOR WEAPONS, BLANK	1.1C
0462	ARTICLES, EXPLOSIVE, N.O.S.	1.1C
	SUBSTANCES CLASSIFIED AS 1.1D	
0004	AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	1.1D
0027	BLACK POWDER (GUNPOWDER) granular or as meal	1.1D
0028	BLACK POWDER (GUNPOWDER), COMPRESSED, or BLACK POWDER, (GUNPOWDER), in pellets	1.1D
0072	CYCLOTRIMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX) WETTED with not less than 15% water, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1D
0075	DIETHYLENEGLYCOL DINITRATE, DESENSITISED, with not less than 25% non-volatile, water insoluble phlegmatiser, by mass	1.1D
0076	DINITROPHENOL, dry or wetted with less than 15% water, by mass	1.1D
0078	DINITRORESORCINOL, dry or wetted with less than 15% water, by mass	1.1D
0079	HEXANITRODIPHENYLAMINE, (DIPICRYLAMINE; HEXYL)	1.1D
0081	EXPLOSIVE, BLASTING, TYPE A	1.1D
0082	EXPLOSIVE, BLASTING, TYPE B	1.1D
0083	EXPLOSIVE, BLASTING, TYPE C	1.1D
0084	EXPLOSIVE, BLASTING, TYPE D	1.1D
0118	HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass	1.1D
0133	MANNITOL HEXANITRATE (NITROMANNITE), WETTED with not less than 40% water by mass, or a mixture of alcohol and water, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1D
0143	NITROGLYCERIN, DESENSITISED with not less than 40% non-volatile water-soluble phlegmatiser, by mass ***NOTE 1****: Refer also to Special Provision 266 in Appendix 3.* ***NOTE 2****: Refer also to Special Provision 271 in Appendix 3.*	1.1D
0144	NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin ***NOTE*** *UN 3064 nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin, carried under special conditions of packing, is a substance of Class 3.*	1.1D

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	SUBSTANCES CLASSIFIED AS 1.1D (continued)	
0146	NITROSTARCH, dry or wetted with less than 20% water, by mass	1.1D
0147	NITRO-UREA	1.1D
0150	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), WETTED with not less than 25% water, by mass, or DESENSITISED with not less than 15% phlegmatiser, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1D
0151	PENTOLITE, dry or wetted with less than 15% water, by mass	1.1D
0153	TRINITROANILINE (PICRAMIDE)	1.1D
0154	TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass ***NOTE:*** *For small quantities of not more than 500g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 1344, subject to Special Provisions with respect to packaging.*	1.1D
0155	TRINITROCHLOROBENZENE (PICRYL CHLORIDE) ***NOTE:*** *For small quantities of not more than 500g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, subject to Special Provisions with respect to packaging and approval from the Competent Authority.*	1.1D
0207	TETRANITROANILINE	1.1D
0208	TRINITROPHENYLMETHYLNITRAMINE (TETRYL)	1.1D
0209	TRINITROTOLUENE (TNT) dry or wetted with less than 30% water, by mass ***NOTE:*** *For small quantities of not more than 500g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 1356, subject to Special Provisions with respect to packaging.*	1.1D
0213	TRINITROANISOLE	1.1D
0214	TRINITROBENZENE, dry or wetted with less than 30% water, by mass ***NOTE:*** *For small quantities of not more than 500g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 1354, subject to Special Provisions with respect to packaging.*	1.1D
0215	TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass ***NOTE:*** *For small quantities of not more than 500 g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 1355, subject to Special Provisions with respect to packaging.*	1.1D
0217	TRINITRONAPHTHALENE	1.1D
0218	TRINITROPHENETOLE	1.1D
0219	TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	1.1D
0220	UREA NITRATE, dry or wetted with less than 20% water, by mass ***NOTE:*** *For quantities of not more than 11.5 kg per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 1357, subject to Special Provisions with respect to packaging.*	1.1D
0222	AMMONIUM NITRATE containing more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	1.1D
0226	CYCLOTETRAMETHYLENETETRANITRAMINE, (HMX; OCTOGEN), WETTED with not less than 15% water, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.1D
0241	EXPLOSIVE, BLASTING, TYPE E	1.1D

	SUBSTANCES CLASSIFIED AS 1.1D (continued)	
0266	OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass	1.1D
0282	NITROGUANIDINE (PICRITE), dry or wetted with less than 20% water, by mass	1.1D
0340	NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass	1.1D
0341	NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass	1.1D
0385	5-NITROBENZOTRIAZOL	1.1D
0386	TRINITROBENZENESULFONIC ACID	1.1D
0387	TRINITROFLUORENONE	1.1D
0388	TRINITROTOLUENE (TNT) AND TRINITROBENZENE MIXTURE or TRINITROTOLUENE (TNT) AND HEXANITROSTILBENE MIXTURE	1.1D
0389	TRINITROTOLUENE (TNT) MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	1.1D
0390	TRITONAL	1.1D
0391	CYCLOTRIMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENETETRANITRAMINE (HMX; OCTOGEN) MIXTURE, WETTED with not less than 15% water by mass, or CYCLOTRIMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENETETRANITRAMINE (HMX; OCTOGEN) MIXTURE DESENSITISED with not less than 10% phlegmatiser, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3*	1.1D
0392	HEXANITROSTILBENE	1.1D
0393	HEXOTONAL	1.1D
0394	TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water, or mixture of water and alcohol, by mass	1.1D
0401	DIPICRYL SULFIDE dry or wetted with less than 10% water by mass ***NOTE:*** *For small quantities of not more than 500 g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 2852, subject to Special Provisions with respect to packaging.*	1.1D
0402	AMMONIUM PERCHLORATE ***NOTE 1:*** *Refer also to Special Provision 152 in Appendix 3.* ***NOTE 2:*** *See also UN 1442*	1.1D
0411	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) with not less than 7% wax, by mass ***NOTE:*** *The phlegmatised substance shall be significantly less sensitive than dry PETN.*	1.1D
0475	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1D
0483	CYCLOTRIMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX), DESENSITISED	1.1D
0484	CYCLOTETRAMETHYLENETETRANITRAMINE (OCTOGEN; HMX), DESENSITISED	1.1D
0489	DINITROGLYCOLURIL (DINGU)	1.1D
0490	NITROTRIAZOLONE (NTO)	1.1D
0496	OCTONAL	1.1D
0504	1*H* – TETRAZOLE	1.1D

A8

	ARTICLES CLASSIFIED AS 1.1D	
0034	BOMBS with bursting charge	1.1D
0038	BOMBS, PHOTOFLASH	1.1D
0042	BOOSTERS without detonator	1.1D
0043	BURSTERS, explosive	1.1D
0048	CHARGES, DEMOLITION	1.1D
0056	CHARGES, depth	1.1D
0059	CHARGES, SHAPED without detonator	1.1D
0060	CHARGES, SUPPLEMENTARY, EXPLOSIVE	1.1D
0065	CORD, DETONATING, flexible	1.1D
0099	FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells	1.1D
0124	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1.1D
0137	MINES with bursting charge	1.1D
0168	PROJECTILES with bursting charge	1.1D
0221	WARHEADS, TORPEDO with bursting charge	1.1D
0284	GRENADES, hand or rifle, with bursting charge	1.1D
0286	WARHEADS, ROCKET with bursting charge	1.1D
0288	CHARGES, SHAPED, FLEXIBLE, LINEAR	1.1D
0290	CORD (FUSE), DETONATING, metal clad	1.1D
0374	SOUNDING DEVICES, EXPLOSIVE	1.1D
0408	FUZES, DETONATING with protective features	1.1D
0442	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.1D
0451	TORPEDOES with bursting charge	1.1D
0457	CHARGES, BURSTING, PLASTICS BONDED	1.1D
0463	ARTICLES, EXPLOSIVE, N.O.S.	1.1D
	ARTICLES CLASSIFIED AS 1.1E	
0006	CARTRIDGES FOR WEAPONS with bursting charge	1.1E
0181	ROCKETS with bursting charge	1.1E
0329	TORPEDOES with bursting charge	1.1E
0464	ARTICLES, EXPLOSIVE, N.O.S.	1.1E

	ARTICLES CLASSIFIED AS 1.1F	
0005	CARTRIDGES FOR WEAPONS with bursting charge	1.1F
0033	BOMBS with bursting charge	1.1F
0037	BOMBS, PHOTO-FLASH	1.1F
0136	MINES with bursting charge	1.1F
0167	PROJECTILES with bursting charge	1.1F
0180	ROCKETS with bursting charge	1.1F
0292	GRENADES, hand or rifle, with bursting charge	1.1F
0296	SOUNDING DEVICES, EXPLOSIVES	1.1F
0330	TORPEDOES with bursting charge	1.1F
0369	WARHEADS, ROCKET with bursting charge	1.1F
0465	ARTICLES, EXPLOSIVE, N.O.S.	1.1F
	SUBSTANCES CLASSIFIED AS 1.1G	
0094	FLASH POWDER	1.1G
0476	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1G
	ARTICLES CLASSIFIED AS 1.1G	
0049	CARTRIDGES, FLASH	1.1G
0121	IGNITERS	1.1G
0192	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.1G
0194	SIGNALS, DISTRESS, Ship	1.1G
0196	SIGNALS, SMOKE	1.1G
0333	FIREWORKS	1.1G
0418	FLARES, SURFACE	1.1G
0420	FLARES, AERIAL	1.1G
0428	ARTICLES, PYROTECHNIC for technical purposes	1.1G
	ARTICLES CLASSIFIED AS 1.1J	
0397	ROCKETS, LIQUID FUELLED with bursting charge	1.1J
0399	BOMBS WITH FLAMMABLE LIQUID with bursting charge	1.1J
0449	TORPEDOES, LIQUID FUELLED with or without bursting charge	1.1J
	SUBSTANCES CLASSIFIED AS 1.1L	
0357	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1L
	ARTICLES CLASSIFIED AS 1.1L	
0354	ARTICLES, EXPLOSIVES, N.O.S	1.1L

A8

	ARTICLES CLASSIFIED AS 1.2B	
0107	FUZES, DETONATING	1.2B
0268	BOOSTERS WITH DETONATOR	1.2B
0364	DETONATORS FOR AMMUNITION	1.2B
0382	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.2B
	SUBSTANCES CLASSIFIED AS 1.2C	
	(reserved)	
	ARTICLES CLASSIFIED AS 1.2C	
0281	ROCKET MOTORS	1.2C
0328	CARTRIDGES FOR WEAPONS, INERT PROJECTILE	1.2C
0381	CARTRIDGES, POWER DEVICE	1.2C
0413	CARTRIDGES FOR WEAPONS, BLANK	1.2C
0414	CHARGES, PROPELLING, FOR CANNON	1.2C
0415	CHARGES, PROPELLING	1.2C
0436	ROCKETS with expelling charge	1.2C
0466	ARTICLES, EXPLOSIVE, N.O.S.	1.2C
0502	ROCKETS with inert head	1.2C
	SUBSTANCES CLASSIFIED AS 1.2D	
	(reserved)	
	ARTICLES CLASSIFIED AS 1.2D	
0035	BOMBS with bursting charge	1.2D
0102	CORD, (FUSE), DETONATING, metal clad	1.2D
0138	MINES with bursting charge	1.2D
0169	PROJECTILES with bursting charge	1.2D
0283	BOOSTERS without detonator	1.2D
0285	GRENADES, hand or rifle, with bursting charge	1.2D
0287	WARHEADS, ROCKET with bursting charge	1.2D
0346	PROJECTILES with burster or expelling charge	1.2D
0375	SOUNDING DEVICES, EXPLOSIVE	1.2D
0409	FUZES, DETONATING with protective features	1.2D
0439	CHARGES, SHAPED, without detonator	1.2D
0443	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.2D
0458	CHARGES, BURSTING, PLASTICS BONDED	1.2D
0467	ARTICLES, EXPLOSIVE, N.O.S.	1.2D

	ARTICLES CLASSIFIED AS 1.2E	
0182	ROCKETS with bursting charge	1.2E
0321	CARTRIDGES FOR WEAPONS with bursting charge	1.2E
0468	ARTICLES, EXPLOSIVE, N.O.S.	1.2E
	ARTICLES CLASSIFIED AS 1.2F	
0007	CARTRIDGES FOR WEAPONS with bursting charge	1.2F
0204	SOUNDING DEVICES, EXPLOSIVE	1.2F
0291	BOMBS with bursting charge	1.2F
0293	GRENADES, hand or rifle, with bursting charge	1.2F
0294	MINES with bursting charge	1.2F
0295	ROCKETS with bursting charge	1.2F
0324	PROJECTILES with bursting charge	1.2F
0426	PROJECTILES with burster or expelling charge	1.2F
0469	ARTICLES, EXPLOSIVE, N.O.S.	1.2F
	SUBSTANCES CLASSIFIED AS 1.2G **(reserved)**	
	ARTICLES CLASSIFIED AS 1.2G	
0009	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.2G
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.2G
0018	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.2G
0039	BOMBS, PHOTO-FLASH	1.2G
0171	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.2G
0238	ROCKETS, LINE-THROWING	1.2G
0313	SIGNALS, SMOKE	1.2G
0314	IGNITERS	1.2G
0334	FIREWORKS	1.2G
0372	GRENADES, PRACTICE, hand or rifle	1.2G
0419	FLARES, SURFACE	1.2G
0421	FLARES, AERIAL	1.2G
0429	ARTICLES, PYROTECHNIC for technical purposes	1.2G
0434	PROJECTILES with burster or expelling charge	1.2G

	ARTICLES CLASSIFIED AS 1.2H	
0243	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.2H
0245	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.2H
	ARTICLES CLASSIFIED AS 1.2J	
0395	ROCKET MOTORS, LIQUID FUELLED	1.2J
0398	ROCKETS, LIQUID FUELLED with bursting charge	1.2J
0400	BOMBS WITH FLAMMABLE LIQUID with bursting charge	1.2J
	ARTICLES CLASSIFIED AS 1.2K	
0020	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1.2K
0021	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1.2K
	SUBSTANCES CLASSIFIED AS 1.2L	
0358	SUBSTANCES, EXPLOSIVE, N.O.S.	1.2L
	ARTICLES CLASSIFIED AS 1.2L	
0248	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	1.2L
0322	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1.2L
0355	ARTICLES, EXPLOSIVE, N.O.S.	1.2L
0380	ARTICLES, PYROPHORIC	1.2L
	SUBSTANCES CLASSIFIED AS 1.3C	
0077	DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass	1.3C
0132	DEFLAGRATING METAL SALTS OF AROMATIC NITRO-DERIVATIVES, N.O.S.	1.3C
0159	POWDER CAKE (POWDER PASTE), WETTED with not less than 25% water, by mass ***NOTE:*** *Refer also to Special Provision 266 in Appendix 3.*	1.3C
0161	POWDER, SMOKELESS	1.3C
0234	SODIUM DINITRO-*o*-CRESOLATE, dry or wetted with less than 15% water, by mass ***NOTE:*** *For small quantities of not more than 500 g per package, this substance, with not less than 10% water, by mass, may also be classified in Class 4.1, being UN 1348, subject to Special Provisions with respect to packaging.*	1.3C
0235	SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C
0236	ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C
0342	NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass ***NOTE:*** *For nitrocellulose with not less than 25% alcohol, by mass and with a nitrogen content of not more than 12.6%, by mass of the nitrocellulose, under special packing conditions, see UN 2556 of Class 4.1.*	1.3C

	SUBSTANCES CLASSIFIED AS 1.3C (continued)	
0343	NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizer, by mass ***NOTE:*** *For nitrocellulose mixtures with not more than 12.6% nitrogen, by dry mass with plasticizer, under special conditions of packing, see UN 2557 of Class 4.1.*	1.3C
0406	DINITROSOBENZENE	1.3C
0477	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3C
0495	PROPELLANT, LIQUID ***NOTE:*** *Refer also to Special Provision 224 in Appendix 3.*	1.3C
0499	PROPELLANT, SOLID	1.3C
0508	1-HYDROXYBENZOTRIAZOLE, ANHYDROUS, dry or wetted < 20% water, by mass	1.3C
	ARTICLES CLASSIFIED AS 1.3C	
0183	ROCKETS with inert head	1.3C
0186	ROCKET MOTORS	1.3C
0242	CHARGES, PROPELLING, FOR CANNON	1.3C
0272	CHARGES, PROPELLING	1.3C
0275	CARTRIDGES, POWER DEVICE	1.3C
0277	CARTRIDGES, OIL WELL	1.3C
0327	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1.3C
0417	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.3C
0437	ROCKETS with expelling charge	1.3C
0447	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.3C
0470	ARTICLES, EXPLOSIVE, N.O.S.	1.3C
	ARTICLES CLASSIFIED AS 1.3F **(reserved)**	
	SUBSTANCES CLASSIFIED AS 1.3G	
0305	FLASH POWDER	1.3G
0478	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3G
	ARTICLES CLASSIFIED AS 1.3G	
0010	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.3G
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.3G
0019	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.3G
0050	CARTRIDGES, FLASH	1.3G

	ARTICLES CLASSIFIED AS 1.3G (continued)	
0054	CARTRIDGES, SIGNAL	1.3G
0092	FLARES, SURFACE	1.3G
0093	FLARES, AERIAL	1.3G
0101	FUSE, NON-DETONATING	1.3G
0195	SIGNALS, DISTRESS, ship	1.3G
0212	TRACERS FOR AMMUNITION	1.3G
0240	ROCKETS, LINE-THROWING	1.3G
0254	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.3G
0299	BOMBS, PHOTO-FLASH	1.3G
0315	IGNITERS	1.3G
0316	FUZES, IGNITING	1.3G
0318	GRENADES, PRACTICE, hand or rifle	1.3G
0319	PRIMERS, TUBULAR	1.3G
0335	FIREWORKS	1.3G
0424	PROJECTILES, inert with tracer	1.3G
0430	ARTICLES, PYROTECHNIC for technical purposes	1.3G
0487	SIGNALS, SMOKE	1.3G
0488	AMMUNITION, PRACTICE	1.3G
0492	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.3G
	ARTICLES CLASSIFIED AS 1.3H	
0244	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.3H
0246	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.3H
	ARTICLES CLASSIFIED AS 1.3J	
0247	AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge	1.3J
0396	ROCKET MOTORS, LIQUID FUELLED	1.3J
0450	TORPEDOES, LIQUID FUELLED, with inert head	1.3J
	SUBSTANCES CLASSIFIED AS 1.3L	
0359	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3L
	ARTICLES CLASSIFIED AS 1.3L	
0249	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	1.3L

	ARTICLES CLASSIFIED AS 1.3L (continued)	
0250	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1.3L
0356	ARTICLES, EXPLOSIVE, N.O.S.	1.3L
	ARTICLES CLASSIFIED AS 1.4B	
0255	DETONATORS, ELECTRIC for blasting	1.4B
0257	FUZES, DETONATING	1.4B
0267	DETONATORS, NON-ELECTRIC for blasting	1.4B
0350	ARTICLES, EXPLOSIVE, N.O.S.	1.4B
0361	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1.4B
0365	DETONATORS FOR AMMUNITION	1.4B
0378	PRIMERS, CAP TYPE	1.4B
0383	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.4B
	SUBSTANCES CLASSIFIED AS 1.4C	
0407	TETRAZOL-1-ACETIC ACID	1.4C
0448	5-MERCAPTOTETRAZOL-1-ACETIC ACID	1.4C
0479	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4C
0501	PROPELLANT, SOLID	1.4C
	ARTICLES CLASSIFIED AS 1.4C	
0276	CARTRIDGES, POWER DEVICE	1.4C
0278	CARTRIDGES, OIL WELL	1.4C
0338	CARTRIDGES FOR WEAPONS, BLANK OR CARTRIDGES, SMALL ARMS, BLANK	1.4C
0339	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4C
0351	ARTICLES, EXPLOSIVE, N.O.S.	1.4C
0379	CASES, CARTRIDGE, EMPTY WITH PRIMER	1.4C
0438	ROCKETS with expelling charge	1.4C
0446	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.4C
0491	CHARGES, PROPELLING	1.4C
	SUBSTANCES CLASSIFIED AS 1.4D	
0480	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4D
	ARTICLES CLASSIFIED AS 1.4D	
0104	CORD (FUSE), DETONATING, MILD EFFECT, metal clad	1.4D
0237	CHARGES, SHAPED, FLEXIBLE, LINEAR	1.4D
0289	CORD, DETONATING, flexible	1.4D

	ARTICLES CLASSIFIED AS 1.4D (continued)	
0344	PROJECTILES with bursting charge	1.4D
0347	PROJECTILES with burster or expelling charge	1.4D
0352	ARTICLES, EXPLOSIVE, N.O.S.	1.4D
0370	WARHEADS, ROCKET with burster or expelling charge	1.4D
0410	FUZES, DETONATING, with protective features	1.4D
0440	CHARGES, SHAPED, without detonator	1.4D
0444	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.4D
0459	CHARGES, BURSTING, PLASTICS BONDED	1.4D
0494	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1.4D
	ARTICLES CLASSIFIED AS 1.4E	
0412	CARTRIDGES FOR WEAPONS with bursting charge	1.4E
0471	ARTICLES, EXPLOSIVE, N.O.S.	1.4E
	ARTICLES CLASSIFIED AS 1.4F	
0348	CARTRIDGES FOR WEAPONS with bursting charge	1.4F
0371	WARHEADS, ROCKET with burster or expelling charge	1.4F
0427	PROJECTILES with burster or expelling charge	1.4F
0472	ARTICLES, EXPLOSIVE, N.O.S.	1.4F
	SUBSTANCES CLASSIFIED AS 1.4G	
0485	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4G
	ARTICLES CLASSIFIED AS 1.4G	
0066	CORD, IGNITER	1.4G
0103	FUSE, IGNITER, tubular, metal clad	1.4G
0191	SIGNAL DEVICES, HAND	1.4G
0197	SIGNALS, SMOKE	1.4G
0297	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.4G
0300	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.4G
0301	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.4G
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.4G
0306	TRACERS FOR AMMUNITION	1.4G
0312	CARTRIDGES, SIGNAL	1.4G
0317	FUZES, IGNITING	1.4G
0320	PRIMERS, TUBULAR	1.4G

	ARTICLES CLASSIFIED AS 1.4G (continued)	
0325	IGNITERS	1.4G
0336	FIREWORKS	1.4G
0353	ARTICLES, EXPLOSIVE, N.O.S.	1.4G
0362	AMMUNITION, PRACTICE	1.4G
0363	AMMUNITION, PROOF	1.4G
0403	FLARES, AERIAL	1.4G
0425	PROJECTILES, inert with tracer	1.4G
0431	ARTICLES, PYROTECHNIC for technical purposes	1.4G
0435	PROJECTILES with burster or expelling charge	1.4G
0452	GRENADES, PRACTICE, hand or rifle	1.4G
0453	ROCKETS, LINE-THROWING	1.4G
0493	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.4G
0503	AIR BAG INFLATORS, or AIR BAG MODULES, or SEAT-BELT PRETENSIONERS	1.4G
0505	SIGNALS DISTRESS, ship	1.4G
	SUBSTANCES CLASSIFIED AS 1.4L **(reserved)**	
	ARTICLES CLASSIFIED AS 1.4L **(reserved)**	
	SUBSTANCES CLASSIFIED AS 1.4S	
0481	SUBSTANCES, EXPLOSIVE, N.O.S	1.4S
	ARTICLES CLASSIFIED AS 1.4S	
0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIGES, SMALL ARMS	1.4S
0014	CARTRIDGES FOR WEAPONS, BLANK or CARTRIGES, SMALL ARMS, BLANK	1.4S
0044	PRIMERS, CAP TYPE	1.4S
0055	CASES, CARTRIDGE, EMPTY, WITH PRIMER	1.4S
0070	CUTTERS, CABLE, EXPLOSIVE	1.4S
0105	FUSE, SAFETY	1.4S
0110	GRENADES, PRACTICE, hand or rifle	1.4S
0131	LIGHTERS, FUSE	1.4S
0173	RELEASE DEVICES, EXPLOSIVE	1.4S
0174	RIVETS, EXPLOSIVE	1.4S
0193	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.4S

	ARTICLES CLASSIFIED AS 1.4S (continued)	
0323	CARTRIDGES, POWER DEVICE	1.4S
0337	FIREWORKS	1.4S
0345	PROJECTILES, inert with tracer	1.4S
0349	ARTICLES, EXPLOSIVE, N.O.S.	1.4S
0366	DETONATORS FOR AMMUNITION	1.4S
0367	FUZES, DETONATING	1.4S
0368	FUZES, IGNITING	1.4S
0373	SIGNAL DEVICES, HAND	1.4S
0376	PRIMERS, TUBULAR	1.4S
0384	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.4S
0404	FLARES, AERIAL	1.4S
0405	CARTRIDGES, SIGNAL	1.4S
0432	ARTICLES, PYROTECHNIC for technical purposes	1.4S
0441	CHARGES, SHAPED, without detonator	1.4S
0445	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.4S
0454	IGNITERS	1.4S
0455	DETONATORS, NON-ELECTRIC for blasting	1.4S
0456	DETONATORS, ELECTRIC for blasting	1.4S
0460	CHARGES, BURSTING, PLASTICS BONDED	1.4S
0500	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1.4S
0506	SIGNALS DISTRESS, ship	1.4S
0507	SIGNALS SMOKE	1.4S
	SUBSTANCES CLASSIFIED AS 1.5D	
0331	EXPLOSIVE, BLASTING, TYPE B ***NOTE:*** *The word "AGENT" may be used instead of "EXPLOSIVE" when approved by the Competent Authority*	1.5D
0332	EXPLOSIVE, BLASTING, TYPE E ***NOTE:*** *The word "AGENT" may be used instead of "EXPLOSIVE" when approved by the Competent Authority*	1.5D
0482	SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE, N.O.S. (SUBSTANCES, EVI, N.O.S.)	1.5D
	ARTICLES CLASSIFIED AS 1.6N	
0486	ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES EEI)	1.6N
	SAMPLES, EXPLOSIVE	
0190	SAMPLES, EXPLOSIVE other than initiating explosive ***NOTE:*** *Refer to Special Provision 16 of Appendix 3*	1 'As classified by the Competent Authority'

APPENDIX 9

GOODS TOO DANGEROUS TO BE TRANSPORTED

NOTES:

1. the list in this Appendix has been extracted from the AdG Code and it contains entries of goods which are considered to be goods too dangerous to be transported because of their explosive properties, and/or other dangerous properties and, except as elsewhere specified in this Code, are prohibited for transport, unless specifically authorised by a Competent Authority.

2. If an entry in this Appendix includes the expression 'N.E.S.', it refers to goods "not elsewhere specified". In those cases, the goods named in this list are also named in the Numerical Listing in Appendix 2 of this Code. In those cases, the goods named in this list are also named in the Dangerous Goods List in the ADG Code. An entry in the Dangerous Goods List in the ADG Code describes goods of that name that may be transported. For example, it may be possible to transport a substance in compliance with this Code, or the ADG Code, after mixing it with diluents, stabilisers, inhibitors, desensitisers, phlegmatisers, solvents, wetting agents or adulterants, as specified in the Dangerous Goods List in the ADG Code, to overcome the instability inherent in the goods. The entry in this Appendix refers to goods that do not meet the description specified in the Dangerous Goods List in the ADG Code and any associated Special Provisions of that Code or Appendix 3 of this Code.

3. The list below is not an exhaustive listing of goods too dangerous to be transported, see Section 2.1(4) of Appendix 2.

4. A Competent Authority may determine that other goods are to be classified as goods too dangerous to be transported, or that goods listed in this Appendix are not too dangerous to be transported.

5. Some State and Territory legislation, that embodies the principles of the NOHSC National Standard on the Storage and Handling of Dangerous Goods, makes reference to this list and assigns a label or placard to these goods, for use when they are kept on premises. The use of that label/placard is not authorised by this Code for transport purposes.

LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

Acetyl acetone peroxide, N.E.S.
Acetyl benzoyl peroxide, N.E.S.
Acetyl cyclohexane sulfonyl peroxide, N.E.S.
Acetylene (liquefied)
Acetylene silver nitrate
Acetyl hydroperoxide, N.E.S. (Alt: Peracetic acid)
Acetyl peroxide, N.E.S.
Acraldehyde, N.E.S. (Alt: Acrolein)
Acroleic acid, N.E.S. (Alt: Acrylic acid)
Acrolein dimer, N.E.S.
Acrolein, N.E.S.

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LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

Acrylaldehyde, N.E.S. (Alt: Acrolein)
Acryldehyde, N.E.S.
Acrylic acid , N.E.S.
Acrylic acid isobutyl ester, N.E.S. (Alt: Isobutyl acrylate)
Acrylic aldehyde, N.E.S. (Alt: Acrolein)
Acrylonitrile, N.E.S.
Allyl aldehyde, N.E.S. (Alt: Acrolein)
Aluminium dross, wet or hot
Ammonium azide
Ammonium bromate
Ammonium chlorate
Ammonium fulminate
Ammonium nitrate, N.E.S.
Ammonium nitrite
Ammonium permanganate
Ammonium picrate, N.E.S.
Ammonium salt and a chlorate, mixtures of
Ammonium salt and a nitrite, mixtures of
tert-Amyl hydroperoxide, N.E.S.
tert-Amyl perdecanoate, N.E.S.
tert-Amyl peroxyacetate, N.E.S.
tert-Amyl peroxybenzoate, N.E.S.
tert-Amyl peroxyneodecanoate, N.E.S.
tert-Amyl peroxypivalate, N.E.S.
Antimony sulfide and chlorate, mixtures of
Arsenic sulfide and chlorate, mixtures of
Ascaridole
Azaurolic acid (salts of), N.E.S.
Azidodithiocarbonic acid
Azidoethyl nitrate
Azido guanidine picrate, N.E.S.
5-Azido-1-hydroxy tetrazole
Azido hydroxy tetrazole (mercury and silver salts)
3-Azido-1, 2-propylene glycol dinitrate
Aziridine, N.E.S. (Alt: Ethyleneimine)
Azotetrazole, N.E.S.
Barium azide, N.E.S.
Benzene diazonium chloride, N.E.S.
Benzene diazonium nitrate, N.E.S.
Benzene-1, 3-disulfohydrazide, N.E.S.
Benzene triozonide
Benzoxidiazoles, N.E.S.
Benzoyl azide
Biphenyl triozonide
2, 2-Bis-(tert-butylperoxy) butane, N.E.S.
1, 1-Bis-(tert-butylperoxy) cyclohexane, N.E.S.
2, 2-Bis-(4, 4-di-tert-butylperoxy cyclohexyl) propane, N.E.S.
Bis-(2-methylbenzoyl) peroxide, N.E.S.
Bis-(3, 5, 5-trimethyl-1, 2-dioxolanyl-3) peroxide, N.E.S.
Bromine azide
4-Bromo-1, 2-dinitrobenzene
Bromosilane
Butadienes, N.E.S.
1, 2, 4-Butanetriol trinitrate
2-Butenal, N.E.S. (Alt: Crotonaldehyde)
Butene oxide, N.E.S. (Alt: 1, 2-Butylene oxide)

LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

tert-Butoxycarbonyl azide
n-Butoxyethylene, N.E.S. (Alt: Butyl vinyl ether)
Butyl acrylate, N.E.S.
1, 2-Butylene oxide, N.E.S.
tert-Butyl hydroperoxide, N.E.S.
tert-Butyl peracetate, N.E.S.
tert-Butyl perdiethylacetate and tert-Butyl perbenzoate mixtures, N.E.S.
tert-Butyl perisobutyrate, N.E.S.
tert-Butyl peroxyacetate, N.E.S.
tert-Butyl peroxybutyl fumarate, N.E.S.
tert-Butyl peroxycrotonate, N.E.S. (Alt: tert-Butyl percrotonate)
n-Butyl peroxydicarbonate, N.E.S. (Alt: n-Butyl perdicarbonate, and Di-n-butylperoxydicarbonate)
tert-Butyl peroxyisobutyrate, N.E.S. (Alt: tert-Butyl perisobutyrate)
tert-Butyl peroxyisopropylcarbonate, N.E.S.
1-(2-tert-Butylperoxy isopropyl)-3-isopropenylbenzene, N.E.S.
tert-Butyl peroxyneoheptanoate, N.E.S.
tert-Butyl peroxypivalate, N.E.S. (Alt: tert-Butyl perpivalate)
Butyl vinyl ether, N.E.S.
Calcium azide, N.E.S.
Carbazide
Charcoal screenings, wet
Charcoal, wet
Chloral, anhydrous, N.E.S.
Chloric acid, N.E.S.
Chlorine azide
Chlorine cyanide, N.E.S. (Alt: Cyanogen chloride)
Chlorine dioxide
Chloroacetone, N.E.S.
p-Chlorobenzoyl peroxide, N.E.S.
2-Chlorobutadiene-1,3, N.E.S. (Alt: Chloroprene)
3-Chloroperoxybenzoic acid, N.E.S.
Chloroprene, N.E.S.
Chlorotrifluoroethylene, N.E.S. (Alt: Trifluorochloroethylene)
Cinnamene, N.E.S. (Alt: Styrene monomer)
Cinnamol, N.E.S. (Alt: Styrene monomer)
Coal briquettes, hot
Coke, hot
Copper acetylide
Copper amine azide
Copper tetramine nitrate
Crotonaldehyde, N.E.S.
Cumyl hydroperoxide, N.E.S.
Cumyl peroxyneodecanoate, N.E.S.
Cumyl peroxyneoheptanoate, N.E.S.
Cumyl peroxypivalate, N.E.S.
Cyanogen chloride, N.E.S.
Cyanuric triazide
Cyclohexanone peroxide, N.E.S.
Cyclotetramethylene tetranitramine, N.E.S. (Alt: HMX)
Cyclotrimethylene trinitramine, N.E.S. (Alt: RDX or Cyclonite)
Diacetone alcohol peroxides, N.E.S.
Diacetyl peroxide, N.E.S. (Alt: Acetyl peroxide)
1,1-Di-(tert-amylperoxy)cyclohexane, N.E.S.
p-Diazidobenzene
1,1-Diazidoethane
1,1’-Diazidoethane

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LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

1,2'-Diazidoethane
1,1'-Diazoaminonaphthalene
Diazoaminotetrazole, N.E.S.
Diazodinitrophenol, N.E.S.
Diazodiphenylmethane
Diazonium nitrates, N.E.S.
Diazonium perchlorates, N.E.S.
1,3-Diazopropane
Dibenzyl perdicarbonate, N.E.S.
Dibenzyl peroxydicarbonate, N.E.S.
Dibromoacetylene
Di-tert-butyl peroxyazelate, N.E.S.
2,2-Di-(tert-butylperoxy) butane, N.E.S. (Alt: 2,2-Bis-(tert-butylperoxy) butane)
1,1-Di-(4-tert-butylperoxy)cyclohexane, N.E.S. (Alt: 1,1-Bis-(4-tert-butylperoxy) cyclohexane)
Di-n-butylperoxydicarbonate, N.E.S.
Di-(tert-butylperoxy) phthalate, N.E.S.
2,2-Di-(tert-butylperoxy)propane, N.E.S.
Dichloroacetylene, N.E.S.
N,N'-Dichloroazodicarbonamidine (salts of), N.E.S.
Di-4-chlorobenzoyl peroxide, N.E.S. (Alt: p-Chlorobenzoyl peroxide)
Dichloroethyl sulfide
2,2-Di-(4,4-di(tert-butylperoxy)cyclohexyl) propane, N.E.S.
Di-2,4-dichlorobenzoyl peroxide, N.E.S.
Diethanol nitrosamine dinitrate, N.E.S.
Diethylene glycol dinitrate
Diethylgold bromide
Diethyl perdicarbonate, N.E.S.
Diethyl peroxydicarbonate, N.E.S. (Alt: Diethyl pericarbonate)
2,2-Dihydroperoxy propane, N.E.S.
1,8-Dihydroxy-2,4,5,7-tetranitroanthraquinone (Chrysamminic acid)
Di-(1-hydroxytetrazole), N.E.S.
Diiodacetylene
Diisobutyryl peroxide, N.E.S. (Alt: Isobutyryl peroxide)
Diisopropylbenzene hydroperoxide, N.E.S.
Di-(2-methylbenzoyl) peroxide, N.E.S.
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexyne-3, N.E.S.
2,5-Dimethyl-2,5-dihydroperoxyhexane, N.E.S.
3,5-Dimethyl-3,5-dihydroxydioxolane-1,2, N.E.S.
2,5-Dimethyl-2,5-di-(3,5,5-trimethylhexanoylperoxy)hexane, N.E.S.
Dimethyleneimine, N.E.S. (Alt: Ethyleneimine)
2,5-Dimethylhexane-2,5-dihydroperoxide, N.E.S. (Alt: 2,5-Dimethyl-2,5-dihydroperoxy hexane)
1,1-Dimethyl-3-hydroxybutyl peroxyneoheptanoate, N.E.S.
Di-(1-naphthoyl) peroxide
Di-(2-neodecanoylepoxyisopropyl) benzene, N.E.S.
Dinitro-7,8-dimethylglycoluril, N.E.S.
1,3-Dinitro-5,5-dimethyl hydantoin
1,3-Dinitro-4,5-dinitrosobenzene
1,1-Dinitroethane, N.E.S.
1,2-Dinitroethane
Dinitroglycoluril
Dinitromethane
Dinitropropylene glycol
2,4-Dinitroresorcinol (heavy metal salts of), N.E.S.
4,6-Dinitroresorcinol (heavy metal salts of), N.E.S.
Dinitroresorcinols, N.E.S.
3,5-Dinitrosalicylic acid (lead salt), N.E.S.

LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

Dinitrosobenzylamidine and salts of, N.E.S.
N,N-Dinitroso-N,N'-dimethylterephthalimide, N.E.S.
N,N'-Dinitrosopentamethylenetetramine, N.E.S.
2,2-Dinitrostilbene
1,4-Dinitro-1,1,4,4-tetramethylolbutanetetranitrate, N.E.S.
2,4-Dinitro-1,3,5-trimethylbenzene
Di-(β -nitroxyethyl) ammonium nitrate
α,α'-Di-(nitroxy) methylether
1,9-Dinitroxy pentamethylene-2,4,6,8-tetramine, N.E.S.
Diperoxy azelaic acid, N.E.S.
Diperoxy dodecane diacid, N.E.S.
Dipropionyl peroxide, N.E.S. (Alt: Propionyl peroxide)
Distearyl perdicarbonate, N.E.S.
Distearyl peroxydicarbonate, N.E.S. (Alt: Distearyl perdicarbonate)
Di-(3,5,5-trimethyl-1,2-dioxolanyl-3) peroxide, N.E.S.
Di-(3,5,5-trimethylhexanoyl) peroxide, N.E.S.
Divinyl, N.E.S. (Alt: Butadienes)
Divinyl ether, N.E.S.
Divinyl oxide, N.E.S. (Alt: Divinyl ether)
2,6-Epoxy-5-hexenal, N.E.S. (Alt: Acrolein dimer)
Ethanolamine dinitrate
Ethyl acrylate, N.E.S.
Ethyl 3,3-di-(tert-amylperoxy)butyrate, N.E.S.
Ethylene diamine diperchlorate
Ethylene glycol dinitrate
Ethyleneimine, N.E.S.
Ethyl hydroperoxide
Ethyl methacrylate, N.E.S.
Ethyl methyl ketone peroxide(s), N.E.S.
Ethyl nitrate
Ethyl nitrite
Ethyl perchlorate
Ethyl propenoate, N.E.S. (Alt: Ethyl acrylate)
Flammable mixture of dangerous goods of Class 2.1 or Sub-Risk 2.1 with oxygen, nitrous oxide or air
Formaldehyde, gaseous
2-Formyl-3,4-dihydro-2H-pyran, N.E.S. (Alt: Acrolein dimer)
Fulminate of mercury, N.E.S.
Fulminating gold
Fulminating platinum
Fulminating silver
Fulminic acid
Galactan trinitrate
Galactsan trinitrate
Glycerol-1,3-dinitrate
Glycerol monogluconate trinitrate
Glycerol monolactate trinitrate
Guanyl nitrosaminoguanylidene hydrazine, N.E.S.
Guanyl nitrosaminoguanyl tetrazine
Hafnium metal powder, N.E.S., having a particle size less than 3 micrometres if mechanically produced or 10 micrometres if chemically produced
Hexamethylene triperoxide diamine, N.E.S.
Hexamethylol benzene hexanitrate
Hexanitroazoxy benzene
2,2',4,4',6,6'-Hexanitro-3,3'-dihydroxyazobenzene, N.E.S.
2,2',3',4,4',6-Hexanitrodiphenylamine, N.E.S.
2,3'4,4',6,6'p-Hexanitrodiphenylether

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LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

N,N'-(Hexanitrodiphenyl) ethylene dinitramine, N.E.S.
Hexanitrodiphenyl urea
Hexanitroethane
Hexanitrooxanilide
HMX, N.E.S.
Hydrazine azide
Hydrazine chlorate
Hydrazine dicarbonic acid diazide
Hydrazine perchlorate
Hydrazine selenate
Hydrocyanic acid, anhydrous, N.E.S.
Hydrogen cyanide, anhydrous, N.E.S
Hydrogen peroxide, concentrations greater than 60% hydrogen peroxide, N.E.S.
Hydroxylamine iodide
Hyponitrous acid
Ignition element for lighter, containing pyrophoric liquid
Initiating explosives, N.E.S.
Inositol hexanitrate, N.E.S.
Inulin trinitrate, N.E.S.
Iodine azide, N.E.S.
Iodoxy compounds, N.E.S.
Iridium nitratopentamine iridium nitrate
Isobutyl acrylate, N.E.S.
Isobutyl methacrylate, N.E.S.
Isobutyl methyl ketone peroxide, N.E.S.
Isobutyryl peroxide, N.E.S.
Isoprene, N.E.S.
Isopropyl sec-butyl peroxydicarbonate + Di-sec-butyl peroxydicarbonate + Di-isopropyl peroxydicarbonate, N.E.S.
Isopropylcumyl hydroperoxide, N.E.S. (Alt: Diisopropylbenzene hydroperoxide)
Isothiocyanic acid
Lead azide, N.E.S.
Lead mononitroresorcinate, N.E.S.
Lead picrate, N.E.S.
Lead styphnate, N.E.S.
Lead 2,4,6-trinitroresorcinate, N.E.S.
Lighters (cigarettes) containing pyrophoric liquid
Magnesium dross, wet or hot
Mannitan tetranitrate
Mercurous azide
Mercury acetylide
Mercury iodide aquabasic ammonobasic (Iodide of Millon's base)
Mercury nitride
Mercury oxycyanide, N.E.S.
Methacrylic acid, N.E.S.
Methazoic acid
Methyl acetylene/propadiene, mixtures, N.E.S.
β-Methyl acrolein, N.E.S. (Alt: Crotonaldehyde)
Methyl acrylate, N.E.S.
Methylamine dinitramine and dry salts thereof
Methylamine nitroform
Methylamine perchlorate, N.E.S.
Methyl-1,3-butadiene, N.E.S. (Alt: Isoprene)
Methylcyclohexanone peroxide(s), N.E.S.
Methyldichloroarsine
Methylene glycol dinitrate

Methyl ethyl ketone peroxide(s), N.E.S.
α-Methylglucoside tetranitrate
α-Methylglycerol trinitrate
Methyl isobutyl ketone peroxide(s), N.E.S.
Methyl methacrylate monomer, N.E.S.
Methyl nitramine, metal salts of
Methyl nitrate
Methyl nitrite
Methyl picric acid, heavy metal salts of
Methylpropyl acrylate, N.E.S. (Alt: Isobutyl acrylate)
Methylstyrenes, ortho-, meta-, para-, N.E.S.
Methyl trimethylol methane trinitrate
Methylvinylbenzenes, N.E.S. (Alt: Vinyl toluenes)
Monochloroacetone, N.E.S.
Naphthalene diozonide
Naphthylamine perchlorate
Nickel picrate
Nitrated paper (unstable)
Nitrates of diazonium compounds
N-Nitroaniline
m-Nitrobenzene diazonium perchlorate
Nitrocellulose, N.E.S.
Nitrocotton, N.E.S.
6-Nitro-4-diazotoluene-3-sulfonic acid, N.E.S.
Nitroethyl nitrate
Nitroethylene polymer
Nitrogen trichloride
Nitrogen triiodide
Nitrogen triiodide monoamine
Nitroglycerin, liquid, N.E.S.
Nitroguanidine, N.E.S.
Nitroguanidine nitrate
1-Nitro hydantoin
Nitroisobutanetriol trinitrate
Nitromannite, N.E.S.
N-Nitro-N-methylglycolamide nitrate
2-Nitro-2-methylpropanol nitrate
m-Nitrophenyldinitro methane
Nitrostarch, N.E.S.
Nitrosugars, N.E.S.
Octogen, N.E.S.
1,7-Octadiene-3,5-diyne-1,8-dimethoxy-9-octadecynoic acid
Organic peroxide type A, liquid
Organic peroxide type A, solid
Pentaerythrite tetranitrate, N.E.S.
Pentaerythritol tetranitrate, N.E.S.
Pentanitroaniline, N.E.S.
Peracetic acid, N.E.S.
Perchloric acid, N.E.S.
Peroxyacetic acid, N.E.S.
PETN, N.E.S.
m-Phenylene diaminediperchlorate, N.E.S.
Phenylethylene, N.E.S. (Alt: Styrene monomer)
Phosphorus (white or red) and a chlorate, mixtures of
Picric acid, N.E.S.
Potassium carbonyl

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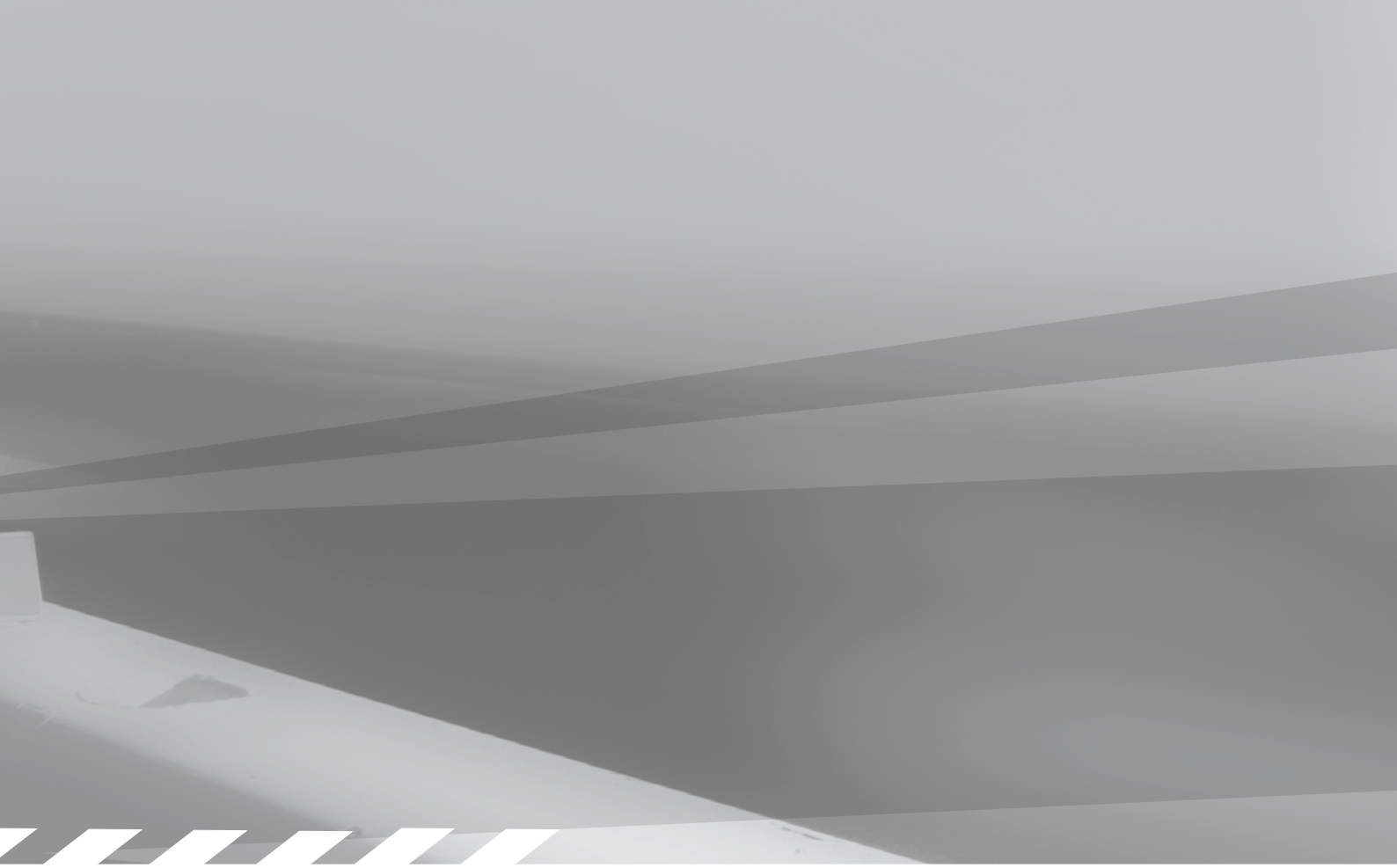
LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

2-Propenal, N.E.S. (Alt: Acrolein)
Propenenitrile, N.E.S. (Alt: Acrylonitrile)
Propenoic acid, N.E.S. (Alt: Acrylic acid)
Propionyl peroxide, N.E.S.
Propylene aldehyde, N.E.S. (Alt: Crotonaldehyde)
Propyleneimine, N.E.S.
Pyridine perchlorate
Quebrachitol pentanitrate
Selenium nitride
Self-reactive liquid type A
Self-reactive solid type A
Shaped charges (commercial) containing more than 220g of explosives
Silver acetylide, N.E.S.
Silver azide, N.E.S.
Silver chlorate, N.E.S.
Silver chlorite, N.E.S.
Silver fulminate, N.E.S.
Silver oxalate, N.E.S.
Silver perchlorate
Silver picrate, N.E.S.
Sodium dinitro-o-cresolate, N.E.S.
Sodium picramate, N.E.S.
Sodium picryl peroxide
Sodium tetranitride
Styrene, monomer, N.E.S.
Sucrose octanitrate, N.E.S.
Sulfur and chlorate, loose mixtures of
Sulfur trioxide, N.E.S.
Sulfuric anhydride, N.E.S. (Alt: Sulfur trioxide)
Tetraazido benzene quinone
Tetrachloromethyl perchlorate
Tetraethylammonium perchlorate, N.E.S.
Tetrafluorohydrazine
Tetrahydrofuran, N.E.S.
Tetramethylene diperoxide dicarbamide
Tetranitrodiglycerin
2,3,4,6-Tetranitrophenol
2,3,4,6-Tetranitrophenyl methyl nitramine
2,3,4,6-Tetranitrophenylnitramine
Tetranitroresorcinol, N.E.S.
2,3,5,6-Tetranitroso-1,4-dinitrobenzene
2,3,5,6-Tetranitroso nitrobenzene, N.E.S.
Tetrazine, N.E.S.
Tetrazolylazide, N.E.S.
Titanium dichloride
Tolyethylenes, mixed isomers, N.E.S. (Alt: Vinyl toluenes)
Trichloroacetaldehyde, anhydrous, N.E.S. (Alt: Chloral)
Trichloroacetic aldehyde, anhydrous, N.E.S. (Alt: Chloral)
Trichloromethyl perchlorate
Trifluorochloroethylene, N.E.S.
Trifluoromonochloroethylene, N.E.S.
Triformoxime trinitrate
Trimethylene glycol diperchlorate
Trimethylol nitromethane trinitrate
2,2,4-Trimethylpentyl-2-peroxyphenoxy acetate, N.E.S.
2,4,4-Trimethylpentyl-2-peroxyneodecanoate, N.E.S.

LIST OF GOODS TOO DANGEROUS TO BE TRANSPORTED

1,3,5-Trimethyl-2,4,6-trinitrobenzene
Trinitroacetic acid, N.E.S.
Trinitroacetonitrile
Trinitroamine cobalt
Trinitrobenzene, N.E.S.
Trinitrobenzoic acid, N.E.S.
2,4,6-Trinitro-1,3-diazobenzene
Trinitroethanol
Trinitroethylnitrate
Trinitromethane
1,3,5-Trinitronaphthalene
Trinitrophenol, N.E.S. (Alt: Picric acid)
2,4,6-Trinitrophenyl guanidine, N.E.S.
2,4,6-Trinitrophenyl nitramine
2,4,6-Trinitrophenyl trimethylol methyl nitramine trinitrate, N.E.S.
2,4,6-Trinitroso-3-methyl nitraminoanisole
Trinitrotetramine cobalt nitrate
2,4,6-Trinitro-1,3,5-triazido benzene, N.E.S.
Tri-(β -nitroxyethyl) ammonium nitrate
Tris-bis-bifluoroamino diethoxy propane (TVOPA)
Urea nitrate, N.E.S.
Vinyl acetate, N.E.S.
Vinyl benzene, N.E.S. (Alt: Styrene, monomer)
Vinyl bromide, N.E.S.
Vinyl-n-butylether, N.E.S. (Alt: Vinyl butylether)
Vinyl butyrate, N.E.S.
Vinyl chloride, N.E.S.
Vinyl cyanide, N.E.S. (Alt: Acrylonitrile)
Vinyl ether, N.E.S. (Alt: Divinyl ether)
Vinyl ethyl ether, N.E.S.
Vinyl fluoride, N.E.S.
Vinylidene, N.E.S.
Vinyl isobutylether, N.E.S.
Vinyl methyl ether, N.E.S.
Vinyl nitrate polymer
Vinyl pyridines, N.E.S.
Vinyl toluenes, mixed isomers, N.E.S.
Vinyl trichlorosilane, N.E.S.
p-Xylyl diazide
Zirconium picramate, N.E.S.



Australian Government