

Class 5 Oxidizing substances and organic peroxides

This class is divided into two classes:

Class 5.1 Oxidizing substances

Substances which, while in themselves not necessarily combustible, may, generally by yielding oxygen, cause, or contribute to, the combustion of other material. They can increase the risk and intensity of fire of combustible substances with which they come into contact.



Class 5.2 Organic peroxides

Organic peroxides are thermally unstable substances which may undergo exothermic self-accelerating decomposition. In addition, they may have one or more of the following properties:

- Be liable to explosive decomposition;
- Burn rapidly;
- Be sensitive to impact or friction;
- React dangerously with other substances;
- Cause damage to the eyes.



Class 6 Toxic and infectious substances

This class is subdivided into two classes:

Class 6.1 Toxic substances

These are substances liable either to cause death or serious injury or to harm human health if swallowed or inhaled, or by skin contact.



Class 6.2 Infectious substances

These are substances known or reasonably expected to contain pathogens.



Class 7 Radioactive material

Radioactive material means any material containing radionuclides.



I



II



III



FISSILE

Radioactive material in packaged form shall be assigned to a category in accordance with the transport index and maximum dose rate on external surface.
Category I - WHITE : Indicate that the transport index and maximum dose rate are low
Category II - YELLOW : Indicate that those are higher than Category I
Category III - YELLOW : Indicate that those are higher than Category II
FISSILE : Contain fissile material

Class 8 Corrosive

This class of substances which, by chemical action, will cause irreversible damage to the skin, or, in the case of leakage, will materially damage, or even destroy, other goods or the means of transport.



Class 9 Miscellaneous dangerous substances

This class includes substances and articles not covered by other classes which experience has shown, or may show, to be of such a dangerous character that the provisions of part A of chapter VII of SOLAS, as amended, shall apply; and substances not subject to the provisions of part A in chapter VII of the aforementioned Convention, but to which the provisions of Annex III of MARPOL, as amended, apply.

Substances include but not limited to:

- (1) liquid substances transported or offered for transport at elevated temperature at or above 100° C and below its flashpoint; and solid substances transported or offered for transport at elevated temperature at or above 240°C;
- (2) Lithium battery.



INTRODUCTION TO THE CLASSIFICATION OF DANGEROUS GOODS



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For more information, please visit the Marine Department website:
https://www.mardep.gov.hk/en/ele_services/dgis.html

The International Maritime Organization revises the "International Maritime Dangerous Goods Code" from time to time. The classification of dangerous goods is subject to the latest revision.

CLASSIFICATION OF DANGEROUS GOODS

Substances and articles subject to the provisions of the International Maritime Dangerous Goods Code are assigned to one of the classes 1-9. Some of these classes are subdivided into divisions. They are listed below :

Class 1 Explosives

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 :

- (1) which give rise to considerable radiant heat ; or
- (2) 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.

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.

Division 1.6 Extremely insensitive articles which do not have a mass explosion hazard

This division comprises articles which predominantly contain extremely insensitive substances and which demonstrate a negligible probability of accidental initiation or propagation.



**Place for division

*Place for compatibility group

Remark : * or ** to be left blank if the explosive is a subsidiary hazard



Class 2 Gases

Substances which are completely gaseous at 20°C at a standard pressure.

The transport condition of a gas is described according to its physical state as:

- (1) compressed gas : a gas which when packaged under pressure for transport is entirely gaseous at -50°C;
- (2) liquefied gas : a gas which when packaged under pressure for transport is partially liquid at temperatures above -50 °C;
- (3) refrigerated liquefied gas : a gas which when packaged for transport is made partially liquid because of its low temperature;
- (4) dissolved gas : a gas which when packaged under pressure for transport is dissolved in a liquid phase solvent;
- (5) adsorbed gas : a gas which when packaged for transport is adsorbed onto a solid porous material.

This class is subdivided further according to the primary hazard of the gas during transport:

Class 2.1 Flammable gas

Class 2.2 Non-flammable, non-toxic gases

Class 2.3 Toxic gases



Class 3 Flammable liquids

Liquids, or mixtures of liquids, which give off a flammable vapor at or below 60°C.

Class 3 includes the following substances:

- (1) flammable liquids ;
- (2) liquid desensitized explosives.



Class 4 Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases

Substances, other than those classified as explosives, which, under conditions of transport, are readily combustible or may cause or contribute to a fire.

This class is subdivided as follows:

Class 4.1 Flammable solid

This Class 4.1 includes the following types of substances:

- (1) Flammable solids
Readily combustible solids and solids which may cause fire through friction;
- (2) Self-reactive substances
Thermally unstable substances liable to undergo a strongly exothermic decomposition even without participation of oxygen;
- (3) Solid desensitized explosives
Explosive substances which are wetted with water or alcohol or are diluted with other substances to form a homogeneous solid mixture to suppress their explosive properties; and
- (4) Polymerizing substances and mixtures (stabilized)
Substances which, without stabilization, are liable to undergo a strongly exothermic reaction resulting in the formation of larger molecules or resulting in the formation of polymers under conditions normally encountered in transport;

Class 4.2 Substances liable to spontaneous combustion

Substances which are liable to spontaneous heating under normal conditions encountered in transport, or to heating up in contact with air, and being then liable to catch fire; and

Class 4.3 Substances which, in contact with water, emit flammable gases

Substances which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.

