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### **DANGEROUS GOODS CLASSIFICATIONS**

The transport of dangerous goods and marine pollutants in sea-going ships is regulated in the international convention for the Safety Of the Life At Sea (SOLAS) and the International convention for the prevention of pollution from ships (MARPOL). Terms of both (SOLAS) and (MARPOL) have been worked out in detail and are included in the international maritime dangerous goods (IMDG) codes. Air transport is regulated by the international civil aviation organization (ICAO) and the International Air Transport Association (IATA) at the trade level. Sea transport is regulated by the International Maritime Organization (IMO). these organizations publish codes of practice based on the un recommendations which outline the requirements for safely transporting dangerous goods by sea and air.

IMCO Class	Description
<b>Class 1</b>	<b>Explosives</b>
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.
Division 1.4	Substances And Articles, Which Present No Significant Hazard.
Division 1.5	Very Insensitive Substances Which Have Mass Explosion Hazard
Division 1.6	Extremely Insensitive Articles Which Do Not Have A Mass Explosion Hazard
<b>Examples:</b>	<i>Ammunition, Fireworks, Blasting Explosives</i>
<b>Class 2</b>	<b>Gases Compressed, Liquefied Or Dissolved Under Pressure.</b>
Division 2.1	Flammable Gases
Division 2.2	Non-Flammable Gases.
Division 2.3	Toxic Gases
<b>Examples:</b>	<p>Division 2.1      <i>Cigarette Lighters, Refills For Gas Lighters, Acetylene, Ethylene , And Hydrogen Some Industry Use.</i></p> <p>Division 2.2      <i>Carbon Dioxide, Oxygen (For Medical And Industrial Use), Compressed Air, Freon Gas Used For Refrigeration And Air Conditioning, Compressed Nitrogen And Argon For Welding. Also, Liquid Oxygen And Liquid Nitrogen For Industrial Use.</i></p> <p>Division 2.3      <i>Chlorine (For Water Treatment And Ammonia (For Industrial Works).</i></p> <p style="text-align: center;"><i>Note! Aerosols, As Pesticides, Air Fresheners, Aerosol Deodorants And Some Oven Cleaners Are Assigned To Division 2.1, 2.2 Or 2.3 Depending On Their Properties.</i></p>
<b>Class 3</b>	<b>Flammable Liquids</b>

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Division 3.1	Low Flash-Point Group Of Liquids(Flash-Point Below –18C. )
Division 3.2	Intermediate Flash-Point Group Of Liquids (Flash-Point Of – 18C.Up To But Not Include +23C.)
Division 3.3	High Flash-Point Group Of Liquids (Flash-Point Of +23C. Up To And Include +61C.)
Examples:	<i>Petrol, Kerosene, Paints, Car Lacquers, Chemical Solvents (Petroleum Derivatives), Varnishes.</i>
<b>Class 4</b>	<b>Flammable Solids Or Substances</b>
Division 4.1	Flammable Solids
Division 4.2	Substances Liable To Spontaneous Combustion
Division 4.3	Substances Which In Contact With Water Emit Flammable Gases.
Examples:	<i>Matches And Sulphur Powder.</i> Division 4.3 <i>Calcium Carbide - Used To Produce Acetylene Gas.</i>
<b>Class 5</b>	<b>Oxidizing Substances (Agents)And Organic Peroxides.</b>
Division 5.1	Oxidizing Substances (Agents) Yielding Oxygen Increases The Risk And Intensity Of Fire.
Division 5.2	Organic Peroxides-Most Will Burn Rapidly And Are Sensitive To Impact Or Friction.
Examples:	Division 5.1 <i>Pool Chlorine , Some Fertilizers.</i>
<b>Class 6</b>	<b>Toxic And Infectious Substances</b>
Division 6.1	Toxic Substances.
Division 6.2	Infectious Substances.
Examples:	Division 6.1 <i>Some Pesticides , Industry Products Such As Cyanide Products.</i> Division 6.2 <i>Waste Medical Products For Example.</i>
<b>Class 7</b>	<b>Radioactive Substances</b>
Examples:	<i>Substances Used In Industrial ,Medical Or Scientific Purposes.</i>
<b>Class 8</b>	<b>Corrosives</b>
Examples:	<i>Acids As Glacial Acetic Acid, Hydrochloric, Sulphuric And Nitric Acid, Caustic Soda And Caustic Potash</i>
<b>Class 9</b>	<b>Miscellaneous Dangerous Substances And Articles.</b>
Examples:	<i>A Wide Range Of Substances As Asbestos, Some Fertilizers And Environmentally Hazardous Products.</i>
<b>MHB</b>	<b>Materials Hazardous Only In Bulk.</b>

**N.B Packing Group**

Classes 3, 4, 5.1, 6.1 and 8 have been divided into three packing groups (pg): I, II or III. The packing group indicates the degree of risk within the classes and specifies the standard of packaging. Packing group I denotes high risk and therefore requires the highest standard of packaging; II denotes medium risk; and III denotes low risk. the IMDG code uses the term packaging group rather than packing G.

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### **IMCO TERMS**

#### **IMCO Class**

Grouping of dangerous goods by type of risk involved. This grouping was drawn up by the UN Committee of experts on transport

#### **Corrosive Material**

A liquid or solid that causes visible destruction or irreversible damage to human skin tissue on contact. Also, it may be a liquid that has a severe corrosion rate on steel.

#### **Flash Point**

The minimum temperature at which the flammable vapours of a substance (in contact with a spark or flame) will ignite.

#### **UN Number**

United Nations Serial number, that is to say, one of the four digit numbers devised by the United Nations and specified in the approved carriage list as a means of identification for dangerous goods.

#### **ADR**

Means the European agreement concerning the international carriage of dangerous goods by road signed at Geneva On 30th September 1957[4], as revised or re-issued from time to time

#### **MFAG**

Medical First Aid Guide

#### **MHB**

Materials hazardous only in bulk, where Hazardous in closed containers.

### **IMCO LABELS**

Class 1 - Explosives		
		
Division 1.1	Division 1.2	Division 1.3

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Division 1.4



Division 1.5



Division 1.6

Class 2 - Gases Compressed ,Liquefied Or Dissolved Under Pressure



Division 2.1



Division 2.2



Division 2.3

Class 3 - Flammable Liquids



Class 4 - Flammable Solids Or Substances



Division 4.1



Division 4.2



Division 4.3

Class 5 - Oxidizing Substances (Agents)And Organic



Division 5.1



Division 5.2

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Class 6 - Toxic And Infectious Substances



Division 6.1



Division 6.2

Class 7 - Radioactive Substances



White



Yellow II



Yellow III

Class 8 - Corrosives



Class 9 - Miscellaneous Dangerous Substances And Articles



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