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SG Calculator

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Hazardous Cargoes

Hazardous materials are classified according to the nature of the hazard involved. The most widely accepted system is that promulgated by the United Nations and which is incorporated in the International Maritime Dangerous Goods Code (IMDG) and provides the foregoing classifications for tank containers.

Class 1 Explosives

- **1.1** Substances and articles which have a mass explosion hazard (a mass explosion is one which affects virtually the entire load almost instantaneously)
- **1.2** Substances and articles which have a projection hazard but not a mass explosion hazard
- **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
- **1.4** Substances and articles which present no significant hazard
- **1.5** very insensitive substances which have a mass explosion hazard

Class 3 Inflammable Liquids

- **3.1** Low flashpoint group of liquids having a flashpoint below 18 deg C (0 deg F), closed cup test
- **3.2** Intermediate flashpoint group of liquids having a flashpoint of 18 deg C (0 deg F) up to, but not including 23 deg C (73 deg F), closed cup test
- **3.3** High flashpoint group of liquids having a flashpoint of 23 deg C (73 deg F) up to, and including, 61 deg C (141 deg F), closed cup test

Class 5 Oxidising substances (agents) and organic peroxides

- **5.1** Oxidising substances (agents)
- 5.2 Organic peroxides

(These are similar to oxidising substances but are additionally extremely unstable and heat sensitive in that an explosive reaction can occur if exposed to heat or if contaminated by reducing agents. Because of the facility to control temperature in transit, tank containers are an effective means of transporting organic peroxides).

Class 2 Gases

Compressed: liquefied or dissolved under pressure or liquefied by refrigeration

- 2.1 Inflammable* gases
- 2.2 Non-inflammable gases
- 2.3 Poisonous gases**
- * 'inflammable' has the same meaning as flammable
- ** Poisonous gases which are also inflammable should be segregated as Class 2.1 gases.

Class 4 Inflammable solids or substances

- 4.1 Inflammable solids
- **4.2** Substances liable to spontaneous combustion
- **4.3** Substances emitting inflammable gases when wet

(Certain inflammable solids, when molten, may be carried in tank containers. An example is molten sulphur which is in hazard Class 4.1)

Class 6 Poisonous (toxic) and infectious substances

- **6.1** Poisonous (toxic) substances
- 6.2 Infectious substances

(The majority of toxic substances require a Type 1 tank. For certain products a bottom opening is prohibited and a bursting disc may be required in series with the pressure relief device).



Class 1 Explosives



Class 2 Gases



Class 3 Inflammable Liquids



Class 4 Inflammable solids or substances



Class 5 Oxidising substances (agents) and organic peroxides



Class 6 Poisonous (toxic) and infectious substances



Class 7 Radioactive

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Class 7 Radioactive substances

Class 8 Corrosives

substances

Class 9 Miscellaneous dangerous substances

(The majority of corrosive substances require a Type 1 tank. For certain products a bottom opening is prohibited and a bursting disc may be required in series with the pressure relief device).



Class 9 Miscellaneous dangerous substances

This is an abbreviated summary. The UN 'Orange Book' or the IMDG code should be consulted for full information.