HRETID

CONCISE AND COMPREHENSIVE

DANGEROUS GOODS DICTIONARY

GLOSSARY OF TERMS, DEFINITIONS AND ACRONYMS

Dangerous goods related terminology should be as accessible and transparent as possible for the purpose of better communications and safety. Our glossary of commonly-used terms has been devised for those who handle and store dangerous goods and for those conveying dangerous goods by road, inspectors, or for anyone who is responsible for health and safety in the workplace.
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Glossary of terms, definitions and acronyms

A

Absorbent - material, typically fabric sheet, required by UN DG regulations to go between primary and secondary packaging to absorb liquid if the primary is ruptured
Absorption - materials that may be taken into the body through the skin or lungs; taking in or reception on a molecular or chemical level involving gases or liquids
Acid - any chemical with a low pH that can cause damage to skin and/or tissue; neutralizes alkalis (or bases) to form salts (A substance with a pH reading of 0-7)
Acute effect - a health effect that develops rapidly, such as exposure to carbon monoxide in a confined space
Acute Toxicity - a toxic effect which occurs immediately or shortly after a single exposure. Contrast to chronic toxicity. It does not indicate the severity, only the duration of exposure.
ACOP - Approved Code Of Practice
ADR/RID - European Road/Rail Conventions (govern transport of dangerous goods throughout Europe)
Additive effect - The combined toxic effect of the combination is equal to the simple sum of each individual component (ie. 1+2=3). An example is organophosphate insecticides
Adequate information - Information on the foreseeable risks to health and safety of persons. To include information about the nature and conditions required to ensure the substance is safe including, if relevant, warnings if the substance is not to be used in a certain way
Adsorption - A process where materials stick to the surface of a solid body
Aerobic - Operating in the presence of Oxygen
Aerosol - Particles dispersed in a gas
AES - Alkaline Earth Silicate
Agrochemicals - Substances used for agricultural purposes, includes fertilizers, herbicides, insecticides, pesticides and plant growth regulators.
Anhydrous - free from water
Alcohol (Resistant) Foam - An extinguishing medium which is resistant to ketones and esters which could break down other types of foam
Alkali - A substance with a pH reading of 7-14; strong alkalis in solution are corrosive to the skin and mucous membranes
Alloy - a metallic material, homogeneous on a macroscopic scale, consisting of two or more elements so combined that they cannot be readily separated
Alter - In relation to plant means to change the design, add or remove from plant if it may affect health or safety. It does not include routine maintenance, repairs or replacements
Ammunition - Ammunition includes all kinds of bombs, grenades, rockets, mines, projectiles, and other similar devices or contrivances. Ammunition is a Class 1 explosive.
Anaerobic - Operating in the absence of Oxygen
Anhydrous - free from water
Antagonism - Where the toxic effect of a substance reduces the combined effect of the two substances (ie. 1+2=1). An example is methanol and ethanol
Antidote - A specific treatment for chemical exposure
API - Active Pharmaceutical Ingredient. Often produced remote from the finished pharmaceutical
Appearance - A description of the substance in physical terms
Approval - A permission of a competent authority for the serial manufacturing and marking
of dangerous goods packaging
Asphyxiant - a vapour or gas that can cause unconsciousness or death by suffocation
ASW - Alumino Silicate Glass Wool
ATR - Approved Tank Requirements
Atropine - A common antidote for organophosphate pesticides, such as malathion, which
affect the nervous system
Auto-ignition Temperature - The lowest temperature at which a flammable gas or vapour
in an air mixture will ignite from its own heat source with needing a spark or flame
AVR - Approved Vehicle Requirements

B

BA - Breathing Apparatus
Base - a solid or liquid with a pH higher than 7
BCF – Bio-concentration factor
Biodegradable - Having the ability to decompose through the action of bacteria
Biological Exposure Index - a warning level of biological response to a substance or agent,
or warning level of the substance or agent or its metabolites in the tissues, fluids or exhaled
air of an exposed worker
Biological monitoring - Measurement of hazardous substances or metabolites in the body
tissues, fluids or exhaled air
BOD - Biochemical Oxygen Demand
BP - Boiling Point
Bq - Becquerel (unit of radioactivity)
Bulk - In relation to transport of Dangerous Goods:
   Class 2, in container greater than 500 litres
   Other than Class 2, in container being either liquids or paste; greater than 500 litres,
or solids greater than 400 kg
Bulk cargo - Cargo that is not packed in any way as it is loaded and carried aboard a ship. It
is neither marked nor counted by number. It is in a loose, unpackaged form. E.g., crude oil,
coal, iron ore, grain
Bulk Container - A container other than a packaging used for the storage or handling of
dangerous goods
Bulk Density - Also known as apblank density. A measure of density applied to powders.
Refer to density
Bulk Depot - A depot within premises in which dangerous goods are stored in bulk
Bulk freight - Not in packages or containers, shipped loose in the hold of the ship. Grain,
coal and sulfur are usually bulk freight
Bulk packagings - means cargo transport units loaded with solid dangerous goods without
any intermediate form of containment.
Bulk Store - Used for storage of:
   Gases, of Class 2 with a capacity exceeding 500 litres
   Liquids or pastes in a container exceeding 250 litres
   Solids in quantities exceeding 400 kilograms, but excluding packages.
   Includes process vessels used in batch processes such as metal plating baths.
Bund(ing) - An embankment of earth or a wall to form a perimeter of a compound where
dangerous goods are stored or manufactured. Also called a spill collection compound.

C

Carcinogen - a substance or chemical that can cause cancer
Cargo transport unit - a road freight vehicle, a railway freight wagon, a freight container, a
road tank vehicle, a railway tank wagon or a portable tank

**Carrier** - any person, organization or Government undertaking the transport of dangerous goods by any means of transport. The term includes both carriers for hire or reward (known as common or contract carriers in some countries) and carriers on own account (known as private carriers in some countries)

**CAS RN or CAS No.** – see Chemical Abstracts Service Number

**Cat** - Category (used in relation to carcinogens, mutagens and repro-toxics)

**Catalyst** - a substance or chemical that speeds up a chemical reaction

**Category** - For the purpose of determining the needs for placarding, Hazchem identification etc.,

**Category A** - UN Dangerous goods classification for infectious substances

**Category B** - UN Dangerous goods classification for biological substances

**Capacity** - Is the internal volume of a receptacle

**CBM** - Cubic meter

**CD** - Consultative Document

**CEN** - Committee on European Normalization

**Central Nervous System (CNS)** - the part of the nervous system composed of the brain and spinal cord

**CFCs** - Chlorofluorocarbons

**Chemical Abstracts Service Number (CAS RN or CAS No.)** - An internationally recognised registration number assigned by the Chemical Abstracts Service to uniquely identify either a chemical, a group of similar chemicals or a mixture, (including a fortuitous mixture such as an oil refinery product). The CAS Number (sometimes described as a Registry Number or RN) consists of up to nine digits and provides an accurate way for retrieving a substance from a computer database. The CAS number is simply a reference number and, unlike the UN number, cannot be linked to any particular chemical or physical properties.

**CHIP** - Chemicals (Hazard Information and Packaging) Regulations

**Chronic** - occurring over a substantial period of time

**Chronic Toxicity** - A toxic effect which is demonstrated after repeated or prolonged exposure which need not occur immediately after cessation of exposure

**Class** - Refer Dangerous Goods class

**Class 6.2** - UN Dangerous Goods classification for infectious materials

**Class 9** - UN Dangerous Goods classification for miscellaneous materials (inc Dry Ice)

**Class Labels** - A diamond shaped warning system with a pictorial representation and indication of principal hazard

**Clinical waste** - Any waste which consists wholly or partly of human or animal tissue, blood or other body fluids, excretions, pharmaceuticals, dressings, sharps etc

**Closed cargo transport unit** - with the exception of class 1, means a unit which totally encloses the contents by permanent structures. Cargo transport units with fabric sides or tops are not closed cargo transport units; for definition of class 1 cargo transport unit see 7.1.7.1.1 of IMDG Code (2004 Edition)

**Closure** - a device which closes an opening in a receptacle.

**CMR** - The CMR Convention (full title Convention on the Contract for the International Carriage of Goods by Road) is a United Nations convention signed in Geneva on 19 May 1956. It relates to various legal issues concerning transportation of cargo, predominantly by trucks, by road. It has been ratified by the majority of European states

**CMRs** - Carcinogenic, Mutagenic and Repro-toxic substances

**CMS** - Calcium Magnesium Silicate

**CO2** - An abbreviated chemical name for carbon dioxide gas. It is also the common name used for the fire extinguishing medium using carbon dioxide stored in a cylinder

**Control measures** - ways of preventing or minimising a person's exposure to a hazardous substance. A hierarchy of controls ranks measures taken to prevent or reduce hazard exposure according to effectiveness

**Combination Packaging** - Combination packages consist of an Outer Package and one or more Inner Packages. Inner Packages always have an outer package. Certain Packages
meets specified criteria

**Combustible liquid** - A liquid with a flashpoint and a fire-point at a temperature less than the boiling point. There are two classes: Class C1 - flashpoint of 150EC or less and Class C2 - flashpoint greater than 150EC (ie. greater than C2)

**Combustion** - the process of burning

**Commercially Confidential Information** - Information which if released into the public domain, would commercially disadvantage a firm

**Compatible** - Means the substances do not react together to cause a fire, explosion, violent reaction or lead to the evolution of flammable gases or otherwise lead to injury to people or danger to property

**Competent Authority (CA)** - Means an authority designated by the Government concerned

**Competent person** - Defined by the Commission as a person suitably qualified (by qualification, experience and/or training) to carry out the kind of work for which the person is required or engaged to perform the required task (to comply with the Standard/Code)

**Composite Warning Placards** - These placards are the same as Emergency Information Panels (EIPs as used for vehicles specified in ADG Code Section 3.7) excluding the lower section detailing the emergency information and specialist advice. They comprise of the Correct Technical name, UN No., Hazchem Code, class label and Sub-Risk (if any)

**Compound** - a term to describe a chemical product

**Concentration** - the amount of one substance within another substance

**Concentration cut-off level** - A term used by the National Commission to assess whether a mixture containing hazardous substances is a hazardous substance for the purpose of labelling, MSDS and other purposes

**Conditioning** - The preparation process for PCM materials required in a specific phase before use within a system

**Confined space** - any area limiting natural ventilation, allowing for the accumulation of vapors and gases

**Consignee** - The receiver of the Dangerous Goods

**Consignor** - The sender of the Dangerous Goods

**Container** - anything that holds material, including storage tanks, pipelines and packaging

**Contaminated Land** - Land which because of its current or previous use has substances under, on or in it which may be hazardous to life or the environment

**Controlled Waste** - Wastes from households, industry and commerce, excluding mines, quarries, sewage and some radioactive wastes.

**Corrosive** - a liquid or solid that eats away another material or substance when it comes in contact with it

**COD** - Chemical Oxygen Demand

**COHMED** - Cooperative Hazardous Materials Enforcement Development

**Combination packagings** - a combination of packagings for transport purposes, consisting of one or more inner packagings secured in an outer packaging in accordance with 4.1.1.5 of IMDG Code (2004 Edition)

**Competent authority** - any national regulatory body or authority designated or otherwise recognized as such for any purpose in connection with IMDG Code (2004 Edition)

**Commodity code** - Harmonized Commodity Description and Coding System (HS) of tariff nomenclature is an internationally standardized system of names and numbers for classifying traded products developed and maintained by the World Customs Organization (WCO) (formerly the Customs Co-operation Council), an independent intergovernmental organization with over 170 member countries, based in Brussels, Belgium

**Compatibility group** - Compatibility group refers to a designated alphabetical letter used to categorize different types of Class 1 explosive substances and articles for purposes of safe stowage and segregation

**Composite packagings** - packagings 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.
Consignee - business or person to whom a shipment is delivered  
Consignment - any package or packages, or load of dangerous goods, presented by a consignor for transport  
Consignor - any person, organization or Government which prepares a consignment for 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  
Contact sensitizer - substance that will induce an allergic response following skin contact  
Container - anything that holds material, including storage tanks, pipelines and packaging  
Control temperature - the maximum temperature at which certain substances (such as organic peroxides and self-reactive and related substances) can be safely transported during a prolonged period of time  
Conveyance - means:  
1. for transport by road or rail: any vehicle,  
2. for transport by water: any ship, or any cargo space or defined deck area of a ship,  
3. for transport by air: any aircraft.  
Coolpack - typically a semi-rigid sealed pouch of material, usually water based, for use a PCM within systems. Can be used generically for any sealed PCM system component  
Correct Product Name - Refer Correct Technical Name for definition  
Correct Shipping Name - Refer Correct Technical Name for definition  
Correct Technical Name - In relation to dangerous goods, means the name as also specified in column 2 of section 9, and further detailed in section 1, of the ADG Code as the Correct Shipping Name; name of goods specified on the Schedule to the Standard for the Uniform Scheduling of Drugs and Poisons or a name commonly used in scientific and other literature to accurately identify the substance.  
Corrosive substance - one that will destroy and damage other substances with which it comes into contact. It may attack a great variety of materials, including metals and various organic compounds, but people are mostly concerned with its effects on living tissue  
Crates - outer packaging with incomplete surfaces  
Critical Temperature - the temperature above which a pure gas cannot be liquefied, regardless of the degree of compression  
Cryogenic - a material at a very low temperature  
Cryogenic gas - A gas liquefied by super-cooling to below -100 degC  
Cryogenic Liquid - Class 2 good gases with a boiling point at atmospheric pressure of below -150/C and stored in liquid form at or near atmospheric pressure. Contrast to Liquefied Gas  
Cut-off - Last possible date cargo may be delivered to vessel or designated point.  
Cylinder - Pressure vessel designed for pressures higher than 40 psia and having a circular cross section. It does not include a portable tank, multi-unit tank car tank, cargo tank, or tank car  
Cytotoxic - having the property of being destructive to living cells.  

D  

Dangerous Goods - Articles, substances, mixtures and preparations which are either radioactive, explosive, have one or more hazardous properties or are found on the Approved Carriage List (other than those goods which have been diluted or treated rendering them no longer hazardous)  
Dangerous goods accident - An occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage  
Dangerous goods incident - An occurrence other than a dangerous goods accident associated with and related to the transport of dangerous goods which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other
evidence that the integrity of the packaging has not been maintained

**Dangerous Goods Note (DGN)** - The DGN is a transport document that gives details about the contents of a consignment to carriers, receiving authorities and forwarders

**Dangerous Goods Safety Adviser (DGSA)** - Dangerous Goods Safety Adviser

**Deadweight (DWT)** - Total carrying capacity of a vessel

**Decontamination** - a chemical or physical process of reducing, removing and preventing the spread of contamination from persons and equipment use during a hazardous materials accident

**Demountable tank** - A tank that can usually be handled only when empty; has a greater capacity than 450 litres and is designed for the carriage of goods with a load breakage. A demountable tank is not an integral part of the vehicle and is not a tank that is attached to the frame of the vehicle and except when empty is not intended to be removed from the vehicle

**Density** - Ratio of the mass of a substance to its volume and usually measure at 20°C and expressed as grams per cubic centimetre (g/cm³)

**Department of Transportation (DOT)** - department of government that regulates transportation, the transportation of shipments and the transfer of hazardous materials

**Dermal** - Skin - usually used in connection with absorption through skin (dermal absorption)

**DGs** - Dangerous goods

**Dilution** - method of reducing the concentration of a substance

**Dioxins** - Collective name for a group of compounds called dibenzo-p-dioxins

**Division** - a sub-category of a hazard class

**DOC** - Dissolved organic carbon

**DoE** - Department of the Environment

**DoH** - Department of Health

**DoT** - Department of Transport

**Drums** - flat-ended or convex-ended cylindrical packagings made of metal, fibreboard, plastics, plywood or other suitable materials. This definition also includes packagings of other shapes, such as round taper-necked packagings, or pail-shaped packagings. Wooden barrels and jerricans are not covered by this definition.

**Dry Ice** - Is the solid form of carbon dioxide, used for keeping product frozen. At atmospheric pressure dry ice sublimes (changes from solid to gas phase directly without an intervening liquid phase) at -78.5°C, so is suitable for maintaining ultra-freezer temperatures during long shipments.

**E**

**EAC** - Emergency Action Code

**Earth** - To reduce the potential of an item to that of the ground, normally by direct connection with a conductive cable or strap. It reduces the risk of static electricity discharges

**EC50** - the effective concentration of substance that causes 50% of the maximum response

**EC** - European Commission

**EC** – see Effective Concentration

**Ecotoxics** - Substances or preparations, which present an immediate risk to the environment

**Effective Concentration** - In chemical thermodynamics, activity (symbol a) is a measure of the “effective concentration” of a species in a mixture, meaning that the species’ chemical potential depends on the activity of a real solution in the same way that it would depend on concentration for an ideal solution

**Effects** - Effects are the outcome of exposure to substances via oral, dermal and the inhalation routes, in terms of being; acute lethal (i.e. could cause death), non-lethal irreversible, (not likely to cause death but permanent effects could occur) severe, irritant, sensitising, carcinogenic, mutagenic and teratogenic.

**Effluent** - Any waste liquid from an industrial process

**EIP** - Transport Emergency Information Panels. (Used for vehicles and detailed in the ADG). See Composite Warning Placard

**Element** - A substance that cannot be reduced chemically into a simpler substance
Elevated temperature material - Material which, when offered for transportation or transported in a bulk packaging: (1) Is in a liquid phase and at a temperature at or above 100 °C (212 °F); (2) Is in a liquid phase with a flash point at or above 38 °C (100 °F) that is intentionally heated and offered for transportation or transported at or above its flash point; or (3) Is in a solid phase and at a temperature at or above 240 °C (464 °F)

Emergency - a sudden, urgent, usually unexpected occurrence or occasion requiring immediate attention and action

Emergency Information Panel - A panel used on vehicles with dangerous goods aboard which provides the name of the goods and other details relevant in an emergency aimed at reducing the risk to persons and the environment

Emergency Response Guidebook (ERG) - The industry standard for emergency response information. Developed jointly by the US Department of Transportation, Transport Canada and the Secretariat of Transportation and Communications of Mexico, the ERG provides critical health and safety information to emergency responders, shippers and transporters of dangerous goods / hazardous materials. A shipper of dangerous goods that require shipping papers is required to provide emergency response information with each shipment.

Emergency response plan - written descriptions of planned actions and personnel responsibilities for emergency response actions

Emergency Services - Firefighting services and organisations with functional jurisdiction for emergency response

Emergency temperature - temperature at which emergency procedures should be implemented

EmS - Emergency Procedures

Environmental Testing - term to describe the testing of systems under simulated external environmental challenges most commonly thermal, shock and vibrational and humidity/moisture

EPS - Expanded Polystyrene, moulded or sheet insulation material

ES - See Exposure Standard

Eutectic - optimised melting point of a blend of different chemicals

Evaporation - Evaporation means the release of molecules from the liquid or solid. Evaporation decreases with increasing boiling point and can generally be regarded as negligible if the boiling point exceeds 350°C

Evaporation rate (relative evaporation rate) - The time to evaporate a liquid compared (ie. as a ratio) to the time for the same volume of a reference liquid such as ethyl ether

Exception (Excepted Quantity) - a provision in the regulations that excludes a specific item of hazardous material from the requirements normally applicable to that item

Excise tax - An Inland tax levied on specific forms of goods, e.g. ethanol, and is normally specific, so much per unit of measure.

Exemption - Authorization issued by appropriate national authorities of all States concerned providing relief from the provisions of these Regulations.

Explosive - Explosive substances decompose when triggered by sparks or friction, causing a chain reaction. Although such a decomposition is often attended by fire, the reaction does not need an external source of oxygen. A flammable vapour/air mixture is not an explosive.

Explosive Limits - See Flammability Limits

Exposure - The intensity, frequency and duration of any contact with an agent that is present in the environment

Exposure Standards (ES) - Exposure standards detail levels of airborne concentrations of substances which, according to current knowledge, does not impair the health, or cause discomfort to the workers. Exposure standards are generally expressed as a time-weighted average (TWA) concentration of a substance over an eight-hour working shift, and applied to an eight-hour day, for a five-day working week over an entire working lifetime. TWA permit excursions above the limit provided that they are compensated by equivalent excursions below the limit during the workday.
F

- fibres per cubic centimetre
- fibres per millilitre

Fauna - The animals of a region
FCL - Full container load, a shipping container usually sent by sea, which contains cargo from one shipper to one consignee

Fire point - Applies to liquids to indicate the temperature at which the substance first evolves enough vapour to sustain burning for at least 5 seconds in an open container. Measured and defined by IP 36/84 Open Cup method. This temperature is usually higher than the flash point

Fire resistance - The minimum fire resistance rating of an item of construction (eg. door or wall) and measured by AS 1530, Part 4 in a grading measured in minutes. Measures 1. structural adequacy, 2. integrity and 3. insulation in that order.

Fire risk substance - A readily ignitable substance such as waste paper, hay etc.

Flammable - Capable of being ignited and kept burning in air or, in the case of flammable liquids, those substances which have a flashpoint less than 61°C

Flammable Limits - The Flammable Limits refer to the conditions under which a mixture of a flammable material and air may catch fire or explode. If the percentage of flammable material in the air is between the minimum and maximum limits, the presence of a flame or a source of ignition is likely to lead to rapid combustion or explosion. The material for which flammable limits are quoted may be a flammable liquid, such as ether or methanol, or a powder or dust such as flour or grain dust. Flammable limits are also sometimes referred to as explosion limits.

Flashpoint (FP) - temperature at which the vapour forms a combustible mixture with air. At the flash point the application of a naked flame gives a momentary flash rather than sustained combustion

Flora - The plants and trees of a region

Fly-tipping - The illegal depositing of waste

Freight container - 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 freight containers for radioactive material, see 2.7.2 of IMDG Code (2004 Edition)

Fuel tank - a tank, other than a cargo tank, used to transport flammable or combustible liquid or compressed gas for the purpose of supplying fuel for propulsion of the transport vehicle to which it is attached, or for the operation of other equipment on the transport vehicle

Fugitive Emissions - Any gas, liquid, solid, including vapours, mists etc, which escapes from any equipment, product, facility etc.

Fume - A suspension of liquid or solid particles in the air formed by condensation of vapours from heated substances (including metals produced during welding). Also includes the vapours produced by a decomposition reaction. Moisture in the air often promotes the formation of mists and fumes by reactions with vapours

G

Gas - Material which has a vapor pressure greater than 300 kPa (43.5 psia) at 50 °C (122 °F) or is completely gaseous at 20 °C (68 °F) at a standard pressure of 101.3 kPa (14.7 psia).

Gel Pack - An ice pack of refrigerant gel

Generic Name - A name applied to a group or family of chemicals (eg. alcohols) precisely
defined by the National Commission in the Codes for MSDS or workplace labelling, as groups with similar risks to health and safety

GHS - Globally Harmonised System for classification and labelling of Chemicals

GMO - Genetically Modified Organism

Gram (gm) - a metric unit of weight. One U.S. ounce is approximately 28.4 grams.

Gross weight - the weight of a packaging plus the weight of its contents

H

Half-Life - The time taken for half the atoms of a radioactive isotope to disintegrate

Handling - (of dangerous goods) The conveying of dangerous goods with a premise, manufacturing, processing, movement, use, treatment, dispensing, packaging, sale, transferring, rendering harmless, destroying and disposing

Harmful Substance - A signal word used in workplace labelling by a systematic classification

Harmonized Commodity Description and Coding System - (HS) of tariff nomenclature is an internationally standardized system of names and numbers for classifying traded products developed and maintained by the World Customs Organization (WCO) (formerly the Customs Co-operation Council), an independent intergovernmental organization with over 170 member countries, based in Brussels, Belgium

Hazard - The potential for physical harm to life, health or property. See also risk.

HAZMAT - US term for hazardous material

Hazmat Employee - Definition from 49 CFR (§171.8) means a person who is employed by a hazmat employer and who in the course of employment directly affects hazardous materials transportation safety. This term includes an owner-operator of a motor vehicle which transports hazardous materials in commerce. This term also includes an individual, employed by a hazmat employer who, during the course of employment:

- loads, unloads, or handles hazardous materials;
- manufactures, tests, reconditions, repairs, modifies, marks, or otherwise represents containers, drums, or packagings as qualified for use in the transportation of hazardous materials;
- prepares hazardous materials for transportation;
- is responsible for safety of transporting hazardous materials;
- operates a vehicle to transport hazardous materials

Hazardous material - Substance or material that the DOT has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table and materials that meet the defining criteria for one or more of the nine UN hazard classes and divisions.

Hazardous substance - Material, including its mixtures and solutions

Hazard class - Nine divisions of dangerous goods determined by their primary risk

HAZCHEM code - Emergency Action Codes for dangerous substances conveyed in bulk by road or rail

Health Hazard - The property of a substance which can cause injury from exposure by any means

Health Surveillance - The monitoring, including biological monitoring, of individuals for changes in health from occupational exposure to a hazardous substance

Heavy Metals - Generally refers to Arsenic, Antimony, Cadmium, Chromium, copper, Lead, Mercury, Nickel, Selenium and Zinc

HEPA - High Efficiency Particulate Air

Hierarchy of controls - ranking of measures taken to prevent or reduce hazard exposure according to effectiveness. That is from the most effective measures that eliminate hazards to the least satisfactory that achieve only limited protection

HIN - Hazard Identification Number
HM - Hazardous Materials
HMIS - Hazardous Materials Identification System
HTIW - High Temperature Insulation Wools
Hydraulic Test - A means of testing, by pressurised fluid, the ability of a container to remain leakproof at a given pressure (see 95kPa)
Hydrocarbons - Organic compounds consisting of Carbon and Hydrogen

IATA - International Air Transport Association
IAEA - International Atomic Energy Agency
IBC - See Intermediate Bulk Container
ICAO - International Civil Aviation Organization
ID50 - Infectious Dose 50, quantity of a substance required to infect 50% of a target population by a given route
Ignition Temperature - The temperature at which solids, liquids or gases spontaneously catch fire
Ignition Source - A source of energy sufficient to ignite the flammable atmosphere including by naked flames, mechanical and static electricity sparks and electrical equipment not approved for use in hazardous situations
IMDG Code - International Maritime Dangerous Goods Code
IMCO Class - grouping of dangerous goods by type of risk involved, this grouping was drawn up by the UN Committee of Experts on Transport
Immediate Container - A term used in the SUSDP to describe containers into which the substance (ie. poison) is directly packed excluding a container for consumption or any immediate wrapper
Immediately Dangerous to Life and Health - Refers to a concentration of a toxic substance which presents a hazard as an immediate threat to life or health, or an immediate threat of cumulative or delayed effects on health. It is also defined as a situation where it is NOT possible for a person to escape without losing his life or suffering health damage within 30 minutes, or without severe eye or respiratory irritation, or other reactions which could inhibit escape
Immiscible - Does not mix with water
IMO - International Maritime Organization
IMO type 4 tank - a road tank vehicle for the transport of dangerous goods of classes 3 to 9 and includes a semi-trailer with a permanently attached tank or a tank attached to a chassis, with at least four twist locks that account of ISO standards, (i.e. ISO International Standard 1161:1984)
IMO type 6 tank - a road tank vehicle for the transport of non-refrigerated liquefied gases of class 2 and includes a semi-trailer with a permanently attached tank or a tank attached to a chassis which is fitted with items of service equipment and structural equipment necessary for the transport of gases
IMO type 8 tank - a road tank vehicle for the transport of refrigerated liquefied gases of class 2 and includes a semi-trailer with a permanently attached thermally insulated tank fitted with items of service equipment and structural equipment necessary for the transport of refrigerated liquefied gases
Incident Commander (IC) - individual responsible for the management and coordination of all incident operations
Insoluble - unable to be dissolved any further
Incompatible - describing hazardous materials which, if mixed, would be liable to cause a dangerous reaction of heat or gas or produce a corrosive substance. Substances of this nature must not be loaded or placed in a position where they can come into contact with one another
Inert - Inactive or unreactive
Inhalation - breathing in through the mouth or nose of a substance in the form of a gas, vapour, fume, mist or dust
**Ingredient** - A component of the substance including impurities

**Inner packagings** - packagings for which an outer packaging is required for transport

**Inner receptacles** - receptacles which require an outer packaging in order to perform their containment function

**Inorganic** - A material based on any chemical element other than carbon

**Insoluble - unable to be dissolved any further**

**Intermediate bulk containers (IBCs)** - rigid or flexible portable packagings, other than specified in chapter 6.1 of IMDG Code (2004 Edition), that:

1. have a capacity of:
   
   A. not more than 3.0 m³ (3,000 litres) for solids and liquids of packing groups II and III;
   
   B. not more than 1.5 m³ for solids of packing group I when packed in flexible, rigid plastics, composite, fibreboard or Wooden IBCs;
   
   C. not more than 3.0 m³ for solids of packing group I when packed in metal IBCs;
   
   D. not more than 3.0 m³ for radioactive material of class 7;

2. are designed for mechanical handling; and

3. are resistant to the stresses produced in handling and transport, as determined by tests.

**Intermediate packagings** - packagings placed between inner packagings, or articles, and an outer packaging

**IP Methods** - Methods of testing etc. of petroleum products as published by the Institute of Petroleum

**IPCS** - International Programme on Chemical Safety

**Ipecac** - A common emetic (to induce vomiting) available as a syrup

**Irritant** - a substance which causes an inflammatory response when brought into contact with the eyes, skin or respiratory system

**ISO** - International Standards Organisation

**Isomer** - A molecular rearrangement of a chemical which is indicated by a different prefix such as alpha, 1,1,2-, bis etc. Isomers can have different toxicity levels

**ISPS code** - International Ship and Port facilities Security code

**ISTA** - International Safe Transit Association, a testing and oversight body on transport of goods

**J**

**Jerricans** - metal or plastics packagings of rectangular of polygonal cross-section

**Journey (dangerous goods transport)** - Any journey between a point at which goods are picked up or set down and the next point at which goods are picked up or set down

**K**

**Known cargo** - Cargo which has been thoroughly checked and securely stored prior to loading on an aircraft; this is to ensure that it does not carry a prohibited article, such as an incendiary or explosive device.

**KPa** - Kilopascals

**L**

**Labels** - Transport Labels, Temperature Labels, Monitoring Labels, Number Labels, Chemical Emergency Labels

**Laboratory** - Where dangerous goods are used for analysis, research or teaching

**Large packagings** - packagings consisting of an outer packaging which contains articles of inner packagings and which:

1. are designed for mechanical handling; and
2. exceed 400 kg net mass or 450l capacity but have a volume of not more than 3 m³

**LC50** - Lethal Concentration 50, quantity of a substance, administered by inhalation, required to kill 50% of a target population within a specified time

**LCL** - Less than container load, a shipping container usually sent by sea, which contains
cargo from more than one shipper and/or to more than one consignee. Used when cargo needs to be moved by sea, for size or cost reasons, but there is insufficient cargo to make an FCL economic

LD50 - Lethal Dose 50, quantity of a substance, administered orally or dermally, required to kill 50% of a target population within a specified time

Leachate - Contaminated waters running off of, or percolating through a landfill site

LEL - Lower Explosive Limit, the lowest concentration of a flammable liquid vapour and air mixture, expressed as a percentage by volume in air, in which an explosion will occur on ignition in a confined area

Liner - 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.

Limited quantity - the maximum amount of a hazardous material for which there may be specific labeling or packaging exception

Liquids - unless there is an explicit or implicit indication to the contrary, dangerous goods with a melting point or initial melting point of 20 °C or lower at a pressure of 101.3 kPa. A viscous substance for which a specific melting point cannot be determined should be subjected to the ASTM D 4359-90 test, or to the test for determining fluidity (penetrometer test) prescribed in Appendix A.3 of Annex A of the European Agreement concerning the International Transport of Dangerous Goods by Road (ADR) with the modifications that the penetrometer should conform to ISO 2137:1985 and that the test should be used for viscous substances of any class.

Liquefied Gas - Refrigerated liquid or liquefied gas under pressure and low temperature. Contrast to cryogenic liquid which is at or near atmospheric pressure

LNG - Liquefied natural gas

Load Limit - The quantity of dangerous goods that must be loaded onto a vehicle at which the ADR regulations will be fully applied.

LOCAE - List of Classified and Authorised Explosives

Location - can mean a region within a store indicated by means of a grid reference. For a manifest, the location is the store identified in relationship to the overall site

LPG - Petroleum, Propane or Butane gas which has been liquefied for transport

M

Major load (dangerous goods in transport) - The goods of which the greatest quantity is carried on the journey

Manufactured product - Manufactured products are goods of Class 3, PG II or PG III, (ie. Class 3.2) with at least 10 per cent non volatile materials (as per AS 1580, Method 301.1) and in containers with a capacity less than 30 L. Includes many paints and adhesives

Manufacturer - A person who manufacturers goods or items (including plant) for use in a workplace

Manufacturer's Product Code - Identification codes (including batch codes) for the product as used by the manufacturer or supplier. This can help with product identification including the age of the product, (important for products which deteriorate with time)

MARPOL - International Convention for the Prevention of Pollution from Ships

Material Safety Data Sheet (MSDS) - informational sheet which is sent with hazardous materials, typically listing chemical properties, emergency response procedures, reactivity data, control measures, safe handling procedures and manufacturer information

Marking - descriptive name, identification number, instructions, cautions, weight, specification, or UN marks or combinations thereof, required on outer packaging of hazardous materials

Maximum capacity - as used in 6.1.4 of IMDG Code (2004 Edition) means the maximum inner volume of receptacles or packagings expressed in litres

Maximum net mass - as used in 6.1.4 of IMDG Code (2004 Edition) means the maximum net mass of contents in a single packaging or maximum combined mass of inner packagings and the contents thereof and is expressed in kilograms
MEGC - Multiple-Element Gas Container
MEL - Maximum Exposure Limit
**Melting Point (m.p.)** - Indicates the melting point of a substance (when a solid changes to a liquid or vice versa) at atmospheric pressure. If there is a significant difference between the melting point and the freezing point, the range is given. In case of hydrated (with crystal water) substances the apblank melting point is given. If the substance decomposes during melting at atmospheric pressure, the term 'unknown' may be used.
**Metric Standard Conditions (MSC)** - Conditions at a temperature of 15EC (Effective Concentration) and at an atmosphere of 101.325 kilo Pascals
**Metric Ton (M/T)** - 1,000 kilograms (2,204 pounds)
MFAG - Medical First Aid Guide
**mg/m³** - Milligrams per cubic meter of air
MHB - materials hazardous only in bulk, where hazardous regulations are not applied to these materials when they are carried in closed containers.
Minimise - To reduce to the lowest practicable limit
**Minor load (dangerous goods transport)** - Any goods which are not part of the major load on the journey
Miscible - Mixes with water
**Mist** - A suspension of liquid particles in the air, formed by condensation of a vapour
Mixture - a material composed of more than one chemical compound or element
**MKT** - Mean Kinetic Temperature, a (disputed) measure of temperature exposure for products
**mmpcf** - Million particles per cubic meter
**MMVF** - Man-made Vitreous Fibre
**Molecular Mass** - A measure of the weight of a substance on a molecular basis. For gases, it can be used to determine an important feature of whether they are heavier or lighter than air. Air is taken to have a molecular mass of 29 so that a gas with a molecular mass of more than 29 will tend to stay at floor level, which, if flammable, has important implications in flame propagation. Used to determine the relative vapour density.
**Monitoring** - The survey of activities used to control hazardous substances in the workplace (excluding biological monitoring).
**m.p.** - See melting point
**MSDS** - Materials Safety Data Sheet
**Mutagen (Muta)** - Capable of changing genetic material (in the cell)
**Mutagenic** - A characteristic of some substances of being able to change the genetic material of cells which can impact on health, or in sperm or ova can lead to sterility or hereditary effects in later generations

N

**Necrosis** - Cell death - often used to indicate cell death of skin on exposure to corrosives
**Net quantity** - The mass or volume of the dangerous goods contained in a package excluding the mass or volume of any packaging material (except in the case of explosive articles and matches where the net mass is the mass of the finished article excluding packagings).
**Net weight** - Weight of the goods being shipped not counting packaging. Compare gross and tare weight.
**Neurotoxin** - a substance that is toxic to the brain and nerves
**Neutraliser** - A substance which cancels or partially cancels out the potential effects of certain chemicals. Includes soda ash or lime to neutralise (ie. convert to a pH of about 7) spilled acids, as well as acids to neutralise alkalis
**Non-flammable** - not capable of being burned under normal circumstances
**NOS** - Not otherwise specified
**Nuclear suppliers group (NSG)** - Organization of nuclear supplier nations, which coordinates exports of nuclear materials and equipment with the International Atomic Energy
Agency (IAEA) inspectorate regime. The reason for creating the NSG was to allow member states some flexibility in controlling items to non-nuclear weapons states. The NSG’s independence from the NPT enables NSG to enlist the cooperation of supplier states that are not signatories to the NPT and thus not involved in the nuclear export control activities of the Zangger Committee. It requires the imposition of safeguards on exports of nuclear technology in addition to nuclear materials and equipment. The NSG developed a multilateral list for national adoption of export controls on dual-use commodities with a nuclear application.

O

OEL - Occupational Exposure Limit
OES - Occupational Exposure Standard
Ocular - Refers to the eye
Odour Threshold (value) - The minimum concentration of the substance in the air capable of being detected by the sense of smell. Normally expressed in parts per million (ppm) or milligrams per cubic metre (mg/m³). As odour thresholds can deviate very significantly depending on various factors, they cannot be used to determine safe working levels
Orange Book - Refers to the UN Recommendations on the Transport of Dangerous Goods - Model Regulations
Organic – Used as a word alone, mostly pertaining to carbon
Organic Peroxide - contains -O-O- structure and may be considered a derivative of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals.
Open cargo transport unit - a unit which is not a closed cargo transport unit
Operator - A person, organization or enterprise engaged in or offering to engage in a transportation operation. (I.e. an airline)
Outer packaging - the outer protection of a composite or combination packaging together with any absorbent materials, cushioning and any other components necessary to contain and protect inner receptacles or inner packagings
Overpack - One unit which is made up of one or more packages assembled in or on a device including straps or ropes, but does not include a container
Overstowed - that a package or container is directly stowed on top of another
Oxidation - a reaction where a substance combines with oxygen, the oxygen being provided by an oxidizer or oxidizing agent
Oxidizer - a substance that gives up oxygen readily to stimulate the combustion of organic matter

P

Package - complete product of the packaging operation consisting of the packaging and contents prepared for transportation
Packaging - receptacles and other components necessary for the receptacle to perform its containment function
Packing group - an indication of the relative degree of danger presented by various articles and substances within a class or division
Packing list - List showing the number and kinds of items being shipped, as well as other information needed for transportation purposes as well as types of packaging
Packaging method - Not to be confused with packaging group. Refers to the proper methods of packaging as also provided for in section 5 of the ADG Code and referenced by column 8 in section 9 of the ADG Code
Pallet - Flat support of wood or steel on which goods can be stacked and which can be easily moved by forklift trucks
Pascal - A unit of pressure (refer AS 1000) more commonly encountered as kPa (1000 pascals) and used in connection with atmospheric pressure at sea level which is 101.3 kPa (equal to about 760 mm Hg)
PCBs - Polychlorinated biphenyls
PCR - Perishable Cargo Regulations (issued by IATA)
PCW - Polycrystalline Wool
PEL - Permissible Exposure Limit
Per cent Volatiles - Percentage of a product that can be lost on long term evaporation usually under normal ambient conditions
Permeation - process by which a chemical dissolves in or moves through a protective clothing material on a molecular level
Permissible Exposure Limit (PEL) - the highest level of a substance to which a person can be exposed, set by OSHA
Peroxide - chemicals that contain two oxygen atoms bonded together, often explosive
Petrochemicals - Chemicals derived from petroleum, hydrocarbon liquids or natural gas
PG - Packing Group
pH - applies to liquids. A pH less than 7 is considered an acid. A pH equal to 7 is neutral. A pH greater than 7 is considered an alkaline (or base)
Phase Change Material (PCM) - A material which is intended to change physical phase (melt/freeze/sublime) at a specific temperature thereby providing thermal stability
Phytotoxic - Poisonous to plants
PI620 - The IATA packing instruction for UN2814
PI650 - The IATA packing instruction for UN3373
PI954 - The IATA packing instruction for Dry Ice
Pilferage - The act of stealing cargo
PIN - Product Identification Number
Placard - Sign displayed to show specific class of hazardous materials being transported.
Plant - Includes any machinery, equipment (including scaffolding), appliance, implement or tool, and any component or fitting or accessory
Pneumatic Test - A means of testing, by pressurised air, the ability of a container to remain leak-proof at a given pressure
PNOC - Particulates Not Otherwise Classified
PNOR - Particulates Not Otherwise Regulated
Poison - A term used in the SUSDP to indicate any substance or preparation listed in its Schedules
Potentiation - A substance, which does not have a toxic effect, increases the toxic effect of another substance (i.e. 0+2=4). An example is isopropanol when combined with the toxic substance carbon tetrachloride
PPE - Personal Protective Equipment
ppm - Parts per million
PQ - Performance Qualification, a quality process testing a system to show its capability.
Pressure receptacle - A collective term that includes cylinders, tubes, pressure drums, closed cryogenic receptacles, metal hydride storage systems and bundles of cylinders
Primary hazard - Hazard class of a material
Proper shipping name (PSN) - the name to be used to describe a particular article or substance in all shipping documents and notification and, where appropriate, on packaging
PU – PUR - Polyurethane foam, moulded or sheet insulation material
Pulmonary toxin - toxic to the lungs
Putrescible Wastes - Wastes, which consist of plant or animal residues which undergo bacteriological degradation when landfilled.
Pyrophoric - liable of igniting within 5 minutes after coming into contact with air

Q

Qualification - A process often involving testing of a component, specific system of components or process to determine whether a necessary standard of performance has been met.
Quality assurance - a systematic programme of controls and inspections applied by any organization or body which is aimed at providing adequate confidence that the standard of safety prescribed in IMDG Code (2004 Edition) is achieved in practice. For radioactive
R

R and S –phrases - R-phrases - Several indications of risks under certain conditions: Examples: R1: Explosive when dry R2: Risk of explosion by shock R5: Heating may cause an explosion. S-Phrases Indication of advises, how to keep a certain material: Examples: S1: Keep locked up S2: Keep out of reach of children S3: Keep in cool place

Re-used packagings - packagings to be refilled which have been examined and found free of defects affecting the ability to withstand the performance tests; the term includes those which are refilled with the same or similar compatible contents and are transported within distribution chains controlled by the consignor of the product

REACH - Registration, Evaluation and Authorization of Chemicals (EC Regulation)

Reactivity - The capacity to combine chemically with other substances. Reactivity is therefore important for the safe use and storage of hazardous materials. When reactive with water, it is particularly important information for the emergency authorities who often use water as an extinguishing and cleaning medium. As most substances are in some way reactive, the MSDS should address reactivity with common substances (for example, air or water)

Reconditioning - Reconditioned packaging
•a) Metal drums that are:•cleaned to original materials of construction, with all former contents, internal and external corrosion, and external coatings and labels removed;
•restored to original shape and contour, with chimes (if any) straightened and sealed and all non-integral gaskets replaced; and
•inspected after cleaning but before painting, with rejection of packagings with visible pitting, significant reduction in the material thickness, metal fatigue, damaged threads or closures or other significant defects;
•b) Plastic drums and jerricans that:•are cleaned to original materials of construction, with all former contents, external coatings and labels removed;
•have all non-integral gaskets replaced; and
•are inspected after cleaning with rejection of packagings with visible damage such as tears, creases or cracks, or damaged threads or closures or other significant defects.

Refrigerated Liquid - Refers to Class 2 goods kept in a liquid form below the ambient temperature but excludes cryogenic liquids

REG - Recommended Exposure Guideline

Registered Carrier - A person registered to transport controlled waste

REL - Recommended Exposure Limit

Relative Density - Refer Specific Gravity

Relative Evaporation Rate - See evaporation rate

Relative Vapour Density (air = 1) - This number indicates how many times a gas is heavier than air at the same temperature. For vapours from liquids and solids, this value applies only for the vapour from the boiling liquid, therefore not for normal ambient temperatures. Do not use if boiling point greater than 350EC. The relative vapour density (to air) is calculated as the molecular weight of the vapour divided by 29 which is the molecular weight of air

Remanufacturing - Remanufactured packaging
•a) Metal drums:•are produced as a UN type complying with the requirements of Chapter 6.1 from a non-UN type;
•are converted from one UN type complying with the requirements of Chapter 6.1 to another UN type; or
•undergo the replacement of integral structural components (such as non-removable heads);
•b) Plastic drums that:•are converted from one UN type another UN type (e.g. 1H1 to 1H2); or
• undergo the replacement of integral structural components.

**Repairing** - Repaired IBCs means a metal, rigid plastics or composite IBC that, as a result of impact or for any other cause (e.g. corrosion, embrittlement or other evidence of reduced strength as compared to the design type) is restored so as to conform to the design type and to be able to withstand the design type tests. For the purposes of ADR, the replacement of the rigid inner receptacle of a composite IBC with a receptacle confirming to the original design type from the same manufacturer is considered repair. The bodies of rigid plastics IBCs and the inner receptacles of composite IBCs are not repairable. Flexible IBCs are not repairable unless approved by the competent authority

**Repro-toxic** - Toxic for reproduction

**RID** - Dangerous goods regulations covering the transport of dangerous goods by rail

**Risk** - a measure of the chances that damage life, property or the environment if a hazard occurs

**Road tank vehicle** - a vehicle equipped with a tank with a capacity of more than 450 litres, fitted with pressure-relief devices. The tank of a road tank vehicle is attached to the vehicle during normal operations of filling, discharge and transport and is neither filled nor discharged on board. A road tank vehicle is driven on board on its own wheels and is fitted with permanent tie-down attachments for securement on board the ship. Road tank vehicles should comply with the provisions of chapter 6.8 of IMDG Code (2004 Edition)

**Risk** - a measure of the chances that damage life, property or the environment if a hazard occurs

**Risk assessment** - The process of evaluating the probability and consequences of injury or illness arising from exposure to identified hazards associated with plant

**RPE** - Respiratory Protective Equipment

**S**

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

**Salvage packagings** - special packagings conforming to the applicable provisions of IMDG Code (2004 Edition) into which damaged, defective or leaking dangerous goods packages, or dangerous goods that have spilled or leaked are placed, for the purposes of transport, recovery or disposal

**SAR** - Structural Activity Relationship

**Saturated Vapour Concentration** - The concentration of the vapour above a substance usually expressed at 20EC at standard atmospheric pressure

**SCBA** - Self Contained Breathing Apparatus

**Screen wall** - A fire rated wall (or `screen wall') provides a barrier against fire and between incompatible chemicals in case of fire. Often defined as a wall (eg. a brick wall without any openings) with at least a 4 hour fire resistance; if the storage area is not roofed, the wall must be 1 metre above the highest stack of dangerous goods

**SDS** - Safety Data Sheet

**Segregation** - A requirement for storing or moving incompatible goods in separate depots or vehicles. The goods are basically determined by dangerous goods class although State dangerous goods regulations for storage may also recognise packaging groups, the physical form and other characteristics. For storage, separation by a screen wall is permitted under certain circumstances. Segregation is defined and detailed in section 7 of the ADG Code. See also Segregation

**Self-accelerating decomposition temperature (SADT)** - 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) should be determined in accordance with the latest version of the United Nations Manual of Tests and Criteria

**Sensitisation** - To become increasingly sensitive to a substance

**Sensitiser** - A substance that causes (a substantial proportion of exposed people or animals) to develop an allergic reaction, or to become very sensitive to the substance (which may occur with minute quantities)

**Separation** - A requirement for incompatible goods to be stored separately and kept apart by specified (separation) distances. Determined by State Government Regulations
recognising their dangerous goods classes, packaging groups and other key characteristics of the product. See also Segregation

**Service Stations** - A retail establishment for the general public mainly supplying petrol, LPG and other petroleum fuels including LPG, for motor vehicles whether or not in conjunction with the sale of foodstuffs and other consumer goods to the public

**Sift-proof packagings** - Packagings impermeable to dry contents, including fine solid material produced during transport

**Signal Word** - Words used on labels of substances to indicate the relative severity of hazard

**SIN** - Substance Identification Number – As UN number

**Sole Packaging** - Sole Packages are intended to be transported without outer protection (see also Combination packaging)

**Solid bulk cargo** - Any material, other than liquid or gas, consisting of a combination of particles, granules or any lager pieces of material, generally uniform in composition, which is loaded directly into the cargo spaces of a ship without any intermediate form of containment (this includes a material loaded in a barge or a barge-carrying ship)

**Solids** - Dangerous goods, other than gases, that do not meet the definition of liquids in IMDG Code (2004 Edition)

**Solubility in Water** - The amount of a substance which may be dissolved in water. Solubility in water should be expressed in grams/litre (g/l), or parts per million (ppm) parts of water may also be used. The temperature, in EC, at which the solubility was measured should be stated if known

**Solvent** - Liquid that has the ability to dissolve other substances

**Sorbent** - Materials designed for control of spills though absorbent properties. Used as liners in packages, or in emergency response situations

**South African Bureau of Standards (SABS)** - The SABS is a statutory organization that was established in terms of Act 24 of 1945. After several amendments to the Act, the SABS is now governed by Act 29 of 1993. As South Africa’s official body for the preparation and publication of standards, it renders important services to government, trade, industry and the consumer in order to achieve its stated aims of strengthening the South African economy and enhancing the quality of life of all South Africans by promoting quality and standardization. More information about Dangerous Cargo regulations in South-Africa are available under: http://www.transport.gov.za

**Specific Gravity** - Indicates whether the substance floats on water or sinks. For gases condensed to the liquid phase, the density of the liquid phase is given. As a ratio, the specific gravity of the product (also, and more properly, known as the relative density), is its mass compared to the mass of an equal volume of water. The Specific Gravity of water is therefore by definition equal to one

**Spill Collection Compound** - See bunding

**Spontaneous Combustion** - Solids or liquids which spontaneously heat and ignite in contact with air. (Eg. white phosphorus.)

**Stability** - The character of a pharmaceutical or ingredient in response to different temperature exposures

**Standard Operating Procedures (SOP)** - Written descriptions of tasks and activities to be followed during work

**ST-1** - IAEA Regulations on the Safe Transport of Radioactive Materials, also known as TS-R-1

**STEL** - Short-Term Exposure Limit

**STP** - Specimen or Sample transport packaging

**STEL** - Short Term Exposure Limit

**Sublimation Point, EC** - A substance sublimes if on heating it passes directly from the solid to the vapour phase, without melting or passing through the liquid phase. This should be mentioned under boiling point

**Subsidiary Risk (Sub-Risk)** - A risk, indicated by reference to a Dangerous Goods class, in addition, by the rules of precedence, (refer section 2 of ADG Code) to the principal class to which the product is assigned

**Sub-Risk** - See Subsidiary Risk
**Substance** - Term used to describe Chemicals, materials, goods, products, formulations and preparations, i.e. whether or not pure or single substances. A term used for any natural or artificial substance whether as a solid, liquid, gas or vapour form, but excluding articles

**Synergism** - The combined toxic effect is greater than the sum of each agent alone (i.e. \(1+2=5\)). An example is carbon tetrachloride and ethanol

**T**

**T&T** - Time and temperature sensitive

**Tank** - a portable tank (including a tank-container), a road tank vehicle, a rail tank wagon or a receptacle with a capacity of not less than 450 litres to contain solids, liquids, or liquefied gases

**Tare weight** - Weight of a container and packing materials without the weight of the goods it contains. Compare Gross weight

**TC** - transport category

**TCP** - Temperature Controlled/Compliant Packaging

**TDG** - Transport of Dangerous Goods

**Technical name** - a recognized chemical name or microbiological name currently used in scientific and technical handbooks, journals and texts

**Teratogen** - See teratogenic

**Teratogenic** - Able to produce abnormalities in a developing foetus, that is, causing birth defects. The EEC now refers to toxic to reproduction

**Threshold Limit Value (TLV)** - a level to which it is believed a worker can be exposed day after day for a working lifetime without adverse health effects

**TI** - Transport Index (in relation to the transport of radioactive materials)

**Tinning** - Certain hazardous chemicals require additional packing within tins before being offered for air transport

**Total Organic Carbon (TOC)** - the amount of carbon bound in an organic compound and is often used as a non-specific indicator of water quality or cleanliness of pharmaceutical manufacturing equipment

**Toxic** - A Toxic substance is one that is capable of causing injury or damage to a living organism. A wide variety of materials are considered as toxic; examples are sulphuric acid whose action is notably corrosive; compounds of heavy metals like tetrathylead, which may act as systemic poisons; selenium compounds, such as selenium dioxide and natural products such as the aflaxations

**Toxicity** - Refers to the potential ability of a substance to cause deleterious (toxic) effects. Low - causes readily reversible changes which disappear after exposure stops. Causes some discomfort. Moderate - may cause reversible or irreversible changes to exposed tissue but not permanent injury. Causes considerable discomfort. High - capable of causing death or permanent injury in normal use

**Toxicology** - The study or relating to toxic effects

**Training** - Here, training always refers to authorized education leading to certification by the appropriate authority

**Trans-boundary movement of wastes** - any shipment of wastes from an area under the national jurisdiction of one country to or through an area under the national jurisdiction of any country, or to or through an area not under the national jurisdiction of any country, provided at least two countries are concerned by the movement

**Transport vehicle** - a cargo carrying vehicle such as an automobile, van, tractor, truck, semi-trailer, tank car, or rail car used for the transportation of cargo by any mode

**Transportable Pressure Receptacle** - A vessel (not an aerosol) with a volume not exceeding 1000 litres or if seamless not exceeding 5000 litres, used for the carriage of gas. This includes a transportable assembly of receptacles, held together by a manifold with each individual receptacle having a volume of 150 litres or less

**TREMCARD** - Transport Emergency Card

**TS-R-1** - IAEA Regulations on the Safe Transport of Radioactive Materials, also known as
ST-1

TWA - Time Weighted Average

**U**

**UEL** - Upper Explosive Limit, highest concentration of a flammable liquid vapour and air mixture expressed as a percentage by volume in air, in which an explosion will occur on ignition in a confined area

**Ullage** - An expression to indicate the extent to which a container is filled. Often expressed as a percentage of free space of the capacity of the container

**UN** - United Nations

**UN ECOSOC** - United Nations Economic and Social Council

**UN Model Regulations** - These Recommendations have been developed by the United Nations Economic and Social Council's Committee of Experts on the Transport of Dangerous Goods in the light of technical progress, the advent of new substances and materials, the exigencies of modern transport systems and, above all, the requirement to ensure the safety of people, property and the environment. They do not apply to the bulk transport of dangerous goods in sea-going or inland navigation bulk carriers or tank-vessels, which is subject to special international or national regulations

**UN standard packaging** - a specification packaging conforming to the standards in the UN recommendations

**UN1845** - Dry Ice

**UN2814** - Infectious substance, affecting humans

**UN2900** - Infectious substance, affecting animals

**UN3373** - Biological substance, Category B

**UNCITRAL** - United Nations Commission on International Trade Law

**UNCED** - United Nations Conference on Environment and Development

**UNEP** - UN Environmental Programme

**Unit load** - means that a number of packages are either:
1. placed or stacked on and secured by strapping, shrink-wrapping, or other suitable means to a load board, such as a pallet;
2. placed in a protective outer enclosure, such as a pallet box;
3. Permanently secured together in a sling.

**United Nations’ Identification Number (UN Number)** - a number used internationally to identify a hazardous material

**Unstable Substance** - A substance which can undergo changes by way of decomposition, condensation, self-reaction or polymerisation

**V**

**Vacuum Test** - A means of testing, by placing within a vacuum, the ability of a container to remain leak-proof at a given pressure (see 95kPa)

**ValuJet disaster** - In May of 1996, 110 passengers and crew died on ValuJet flight 592 after a hazmat shipper failed to declare a shipment of chemical oxygen generators to the airline. The shipment was improperly prepared and the shippers were not trained and certified to ship hazmat, nor was ValuJet certified to carry hazmat.

**Vapour** - gaseous form of a substance normally in liquid or solid state at room temperature

**Vapour density** - The mass (density) of vapour compared to an equal mass (density) of air. With air assumed to be 1.0, vapours with a density greater than 1.0 will sink (staying close to floor)

**Vapour pressure** - The pressure over a liquid created by its vapour. The higher the vapour pressure, the more volatile the substance

**Vehicle** - a road vehicle (including an articulated vehicle, i.e. a tractor and semi-trailer combination) or railroad car or railway wagon. Each trailer should be considered as separate vehicle

**Very toxic** - capable of causing death or very serious health problems after relatively small exposures
VIP - Vacuum Insulation Panel, high performance sheet insulation material

Viscosity - the amount of resistance to flow, related to liquids

VOC - Volatile Organic Compound

VOC Directive - Directive concerned with the control of Volatile Organic Compound emissions resulting from the storage of petrol and its distribution from terminals to service stations

Volatile - Readily able to pass into the vapour state

W

Wastes - substances, solutions, mixtures, or articles containing or contaminated with one or more constituents which are subject to the provisions of IMDG Code (2004 Edition) and for which no direct use is envisaged but which are transported for dumping, incineration, or other methods of disposal

Water-reactive - a substance which, in contact with water, emits flammable gas

WHO - World Health Organization

Wooden barrels - packagings made of natural wood, of round cross-section, having convex walls, consisting of stave and heads and fitted with hoops

Workable - A term which can mean practical or reasonably practical

WSO - World Safety Organization

X

XPS - Extruded Polystyrene, sheet insulation material