

Overview

Dangerous goods are flammable or combustible solids or liquids, gases, oxidising agents, corrosives and toxic or miscellaneous substances which require special precautions for their transport and storage. Dangerous goods or articles are regulated nationally because they pose a risk to people, property or the environment, due to their chemical or physical properties.

Nationally the transport of dangerous goods is under the jurisdiction of the National Occupational Health and Safety Commission and regulated by the *Australian Dangerous Goods Code (ADG)* which is one of the Commission's national standards. In NSW, recent amendments to the scope of OHS legislation have extended legislative provisions to include the regulation of dangerous goods, whether or not they are at workplaces. Chapter 6A of the *Occupational Health & Safety Regulation 2001* adopts and applies as law, the hazard identification and risk assessment approach endorsed by the National Occupational Health and Safety Commission's *ADG Code*.

4.15.01 NSW legislative framework for dangerous goods includes;

OHS Act 2000
OHS Regulation 2001
Explosives Act 2003
Explosives Regulation 2005

4.15.02 This legislation is supported with a range of codes and guides. *The Storage and Handling NSW Code of Practice 2005* provides sample forms and in depth information on notification, placarding, manifests, emergency procedures and compatibility of storage.

4.15.03 There are nine classes of dangerous goods which are defined by the Australian Dangerous Code (ADG). The classification criteria used in the ADG is based on the United Nations recommendations for the transport of dangerous goods.






4.15.04 Within some classes there are further divisions into sub classes eg. Within the Class 2 for Gases there are Flammable gases (Class 2.1). Other Classes are further divided into Packing Groups; i.e. Packing Group I (greatest danger), Packing Group II (medium danger) and Packing Group III (least dangerous)


4.15.05 All dangerous goods containers and enclosed systems must be identified with a class label.






4.15.06 A list of class labels is set out in Table 1 (below).

Table 1

Class	Class label
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<p><u>Class 1 Explosives</u></p> <p>1.1 eg. Tri Nitro Toluene (TNT) 1.2 eg. ammunition 1.3 eg. propellant powder, fireworks 1.4 present no significant hazard 1.5 insensitive substances with mass explosion hazard 1.6 extremely insensitive articles – no mass explosion hazard</p>	
<p><u>Class 2.1 Flammable Gas</u></p> <p>Eg. Hydrogen, Acetylene, Propane</p>	
<p><u>Class 2.2 Non flammable, Non-toxic gas</u></p> <p>Eg. Nitrogen, Helium, Carbon Dioxide</p>	
<p><u>Class 2.2 with Subsidiary Risk 5.1</u></p> <p>Eg. Oxygen</p>	
<p><u>Class 2.3 Toxic Gas</u></p> <p>Eg. Chlorine, Hydrogen Sulphide, Carbon Monoxide, Sulphur Dioxide, Silane, Germane</p>	

<p><u>Class 3 Flammable liquid</u></p> <p>Packing Group 1 (greatest danger) eg. Carbon disulphide, Diethyl ether Packing Group 2 eg Acetone, Methanol, Ethanol Packing Group 3 eg Xylene, Chloroform, Dichloromethane</p>	
<p><u>Class 4 Flammable Solids</u></p> <p>4.1 Flammable solids readily combustible and may cause fire due to friction eg. magnesium metal, alkali metals</p>	
<p>4.2 Flammable solids – spontaneous combustible</p> <p>Substances liable to Spontaneous Combustion eg. white phosphorous and potassium metal</p>	
<p>4.3 Flammable solids -dangerous when wet</p> <p>Substance that in contact with water emit flammable gases which can form explosive mixtures in air eg. white phosphorous, calcium carbide, magnesium, lithium, sodium</p>	
<p><u>Class 5.1 Oxidising Substances</u></p> <p>Oxidising substances are not necessarily combustible: -may initiate combustion in the presence of a combustible substance eg permanganate/glycerol -may liberate oxygen and increase the violence of a fire eg. Calcium hypochlorite, ammonium nitrate</p>	
<p><u>Class 5.2 Organic Peroxides</u></p> <p>Materials that may be liable to explosive decomposition may burn rapidly and are sensitive to impact or friction. eg. dibenzoyl peroxide</p>	

<p><u>Class 6.1 Toxic Substances</u> Also divided into 3 packing groups: Packing group 1 (greatest danger, Packing group 2 and Packing group 3) Eg. Ethidium bromide, benzene, mercury, pesticides, arsenic</p>	
<p><u>Class 6.2 Infectious Substances</u> Eg. vaccines, pathology specimens</p>	
<p><u>Class 7 Radioactive substances</u></p>	
<p><u>Class 8 Corrosive Substances</u> Eg. Hydrochloric acid, Sulphuric acid, Hydrofluoric acid, Sodium Hydroxide, Amines</p>	
<p><u>Class 9 Miscellaneous</u> Non-specific classification includes substances that have potentially dangerous properties that are relatively minor or are not covered by other classes eg. polychlorinated biphenyls, lithium batteries</p>	

Further Information

Occupational Health and Safety Officer (ext. 3232)

References

University of NSW website

Australian Dangerous Goods Code (ADG)

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