

NOTE: THIS CORPORATE STANDARD HAS BEEN DEVELOPED IN ACCORDANCE WITH THE QLD DANGEROUS GOODS SAFETY MANAGEMENT ACT (2001), REGULATIONS (2001), AND RELEVANT NATIONAL STANDARDS / CODES OF PRACTICE, AND HAS NOT YET BEEN AMENDED TO REFLECT OTHER SPECIFIC AUSTRALIAN STATE / TERRITORY REQUIREMENTS.

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Functional Flowchart

Not Applicable

Objective

To provide a corporate standard that outlines SCL's procedure for managing hazards associated with transporting, storing and using **dangerous goods** or **combustible liquids**.

Scope

This corporate standard applies to any work environment within a SCL operated and / or maintained site or any situation where any person may be exposed to **dangerous goods** or **combustible liquids**.

++ Definitions

+ **ADG Code:** Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG) Code.

+ **Article:** an item which is formed to a specific shape, surface or design during production has an end function dependent in whole or in part on its shape or design, and which undergoes no change of chemical composition and physical state during the end use except as an intrinsic aspect of that end use. Fluids and particles are not considered **articles**, regardless of shape or design.

+ **Batched products:** products created on site from other substances (e.g. laboratory reagents).

+ **Chem Alert:** computer software package used to store SCL's Register of substances, **Material Safety Data Sheets (MSDSs)** and Risk Assessments.

+ **Class label:** the label illustrating the class allocated to a substance under the **ADG Code** (refer to Attachment 1).

+ **Combustible liquid:** a **combustible liquid** within the meaning of Australian Standard AS 1940 – The storage and handling of flammable and **combustible liquids**. There are two (2) classes of **combustible liquids**:

- C1: **combustible liquid** with a flashpoint of 150°C or less; and
- C2: **combustible liquid** with a flashpoint of more than 150°C.

+ **Competent person:** a person who has through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform correctly the specified task.

+ **Dangerous Goods:** goods that are listed in the **ADG Code** or meet the classification criteria of the **ADG Code**.

+ **Dangerous Goods Class:** the class allocated to a substance under the **ADG Code** (refer to Attachment 1).

+ **Hazardous area:** An area in which an explosive atmosphere is present or may be expected to be present, in quantities such as to require special precautions for:

- any access or activity that presents an **ignition source**; or
- the construction, installation and use of electrical equipment.

+ **HAZCHEM Emergency Action Code (HAZCHEM Code):** placarding which provides advisory information to the emergency services personnel to enable them to take the appropriate action in the case of an emergency / incident.

+ **IBC:** intermediate bulk container.

+ **Ignition source:** source of energy, which may comprise of naked flames, sparks or hot surfaces / particles, sufficient to ignite an explosive atmosphere.

+ **Label:** information on a container which identifies the substance in the container, whether the substance is a **dangerous good** and provides basic information about safe use, transport and handling.

+ **Material Safety Data Sheet (MSDS):** a document that describes the properties and uses of a substance, that is, identity, chemical and physical properties, health hazard information, precautions for use and safe handling information.

+ + **Occupier:** an **occupier** of premises where **dangerous goods** or **combustible liquids** are stored or handled.
+ Where such a premises is a workplace, the employer is the **occupier**. For a pipeline through which **dangerous goods** or **combustible liquids** are conveyed, the person responsible for the transfer of those goods or liquids is the **occupier**.

+ **Package:** the complete product of the packing operation, and consists of the goods and their packaging. The packaging being the container in which the goods are received or held and includes anything that enables the container to receive or hold the goods or to be closed.

Packaging Group: the division of **dangerous goods** of Classes 3, 4, 5, 6.1, 8 and 9 into three groups according to the degree of the hazard present: 'I' (great danger), 'II' (medium danger) and 'III' (minor danger).

Regulated Waste: means a non-domestic waste mentioned in Schedule 7 of the Environmental Protection Regulation 1998 (whether or not it has been treated or immobilised), and includes:-

- for an element – any chemical compound containing the element; and
- anything that has contained the waste.

Worker: SCL employee or controlled contractor.

Responsibilities

OH&S Systems Manager

To maintain the currency and accuracy of the Corporate Standard for Dangerous Goods Management, reflective of legislative and corporate change

Station / Site Manager

To monitor the implementation of the Corporate Standard for Dangerous Goods Management, and allocate responsibilities and resources to ensure site-specific practices/procedures are developed to satisfy the Corporate Standard

Workers (SCL employees and controlled contractors)

To comply at all times with the requirements specified within this Corporate Standard and any site-specific procedures

Environmental System Coordinator

To provide environmental input and review Corporate Standard.

Hazards

In relation to undertaking work activities involving the use, transport and storage of **dangerous goods**, a safe system has been implemented to control risks to health and safety and the environment arising from hazards and issues such as, but not limited to:

- uncontrolled release of a **dangerous good** or **combustible liquid**; and
- fire and explosion.

Risk Assessment

- + 1. A risk assessment is to be undertaken of the hazards to people, plant and / or the environment, created through the storage of, and / or work involving the handling of **dangerous goods** or **combustible liquids**. The Dangerous Goods Storage Area Risk Assessment Checklist (refer to Attachment 2) is to be used when undertaking such an assessment.
 - + **Note:** *This Checklist is designed to assist with the dangerous goods risk assessment process and is NOT to be used as substitute for a risk assessment.*
2. Copies of all **dangerous goods** risk assessments are to be recorded in the Dangerous Goods Register / **Chem Alert**, and are to be made available to **workers**.
3. Some examples of situations where a **dangerous goods** risk assessment would be required include:
 - 20,000 L Petrol Tank – would focus on assessing the hazards associated with an underground fuel tank and the use / filling procedure associated with it;
 - Flammable Store – (with >50 L of a Class 3, **packaging group 1**, flammable liquid): would focus on assessing the hazards associated with the flammable liquids storage location;
 - A 500 L bulk bin of 98% Sulphuric Acid: would look at the hazards associated with the storage and use of the Sulphuric Acid.
4. A review of all risk assessments is to be undertaken at least every five (5) years (minimum), and / or as soon as possible where:
 - there is any significant change in any process, system or procedure relating to the storage or handling of any **dangerous goods** or **combustible liquids**; or
 - there is evidence that the original risk assessment(s) no longer adequately assess / manage the risk associated with the hazard(s); or
 - an incident occurs on site involving **dangerous goods** or **combustible liquids**.
5. Records of all risk assessments and associated documentation are to be kept by SCL for as long as the **dangerous goods** or **combustible liquids** are stored and / or handled at the site. Risk assessments and associated documentation are to be made readily available to **workers**.
6. Where a **dangerous good** is also a hazardous substance that poses a significant risk to **workers** health, records of risk assessments and associated documentation are to be kept for a minimum of 30 years. Otherwise (i.e. where no risk of injury / illness exists), records of risk assessments and associated documentation are to be kept for a minimum of 5 years. Refer also to [HB#625157 – Hazardous Substance Management](#), for further information regarding hazardous substances.

Controls

1. General
 - 1.1 Wherever possible, **dangerous goods** are to be substituted with those that have a lower risk associated with their storage, handling and transport, and / or reducing the quantity of **dangerous goods** on site.
 - 1.2 **Dangerous goods** and **combustible liquids** are only to be used for the purpose(s) for which they were designed, and as per relevant **MSDS** / Manufacturer recommendations.

- + + 1.3 **Dangerous goods** or **combustible liquids** that are not compatible with other goods or liquids are to be stored separately from such goods or liquids.
- + 1.4 All **dangerous good** and **combustible liquid** storage systems (e.g. tanks), are to be protected against possible impact from vehicles / mobile plant etc.
- + 1.5 Gas cylinders are to comply with the relevant Australian Standard(s), are to be filled with the gas for which they are designed, and are to be inspected as per the relevant Australian Standard by a **competent person** (i.e. the manufacturer and / or supplier) for corrosion, physical damage etc.

Note: Only those workers who have received appropriate training are to fill / decant liquid petroleum gas (LPG) (e.g. BBQ) cylinders on site.

- 1.6 SCL sites that are classified as Large Dangerous Goods Locations or Major Hazard Facilities are to ensure that a documented procedure for dealing with emergencies (i.e. Emergency Plan) is developed, implemented and maintained.
- 1.7 Emergency plans are to be communicated to all persons on site who may be affected by or respond to an emergency involving **dangerous goods** or **combustible liquids**.

Note: Where applicable, relevant elements of the emergency plan are also to be provided to persons on adjacent premises that may be affected by such an emergency.

- 1.8 A copy of the emergency plan is to also be provided to the Emergency Services Authority in the local site area.
- 1.9 Hazards associated with the transfer of **dangerous goods** or **combustible liquids** are to be eliminated or, where this is not possible, minimised as far as practicable, having regard to the need to:
 - (a) avoid spillage or overflow;
 - (b) minimise static electricity (i.e. for combustible / flammable products);
 - (c) minimise vapour generation;
 - (d) minimise gas release;
 - (e) ensure that transfer fittings are compatible with each other; and
 - (f) avoid sources of ignition (i.e. for combustible / flammable products).

2. Spill/Leaks/Containment

- 2.1 SCL is to ensure that:
 - any spill, leak or inadvertent release of solid or liquid **dangerous goods** or **combustible liquids** is confined within the site; and
 - when a spill, leak or inadvertent release of goods or liquids occurs, immediate action is taken to assess and control any risk from the spill, leak or inadvertent release; and
 - when a spill, leak or inadvertent release of goods or liquids occurs or is detected the goods or liquids are contained, cleaned up and disposed of, or otherwise made safe, as soon as practicable.
- 2.2 A clean-up kit containing appropriate equipment and materials for the containment and clean-up of any reasonably foreseeable spills or leaks is to be kept on site.
- 2.3 Prior to cleaning up a spill, the relevant **MSDS** for the material / substance is to be referred to for safe handling and disposal requirements.

- + + 2.4 If a spill occurs near a drain or on land, the spill is to be managed and then reported as soon as possible to the relevant SCL Environmental Personnel who will then make contact with the relevant authority / emergency services (where relevant).
- + 2.5 All spills are to be recorded as soon as possible on a [SCL Form – HS&E Hazard / Incident Notification \(Yellow\) Form](#).
- + 3. Fire Protection
 - 3.1 **Ignition sources** in storage areas are to be eliminated or, where this is not practicable, the risk arising from the **ignition source** is controlled at an acceptable level of risk.
 - 3.2 Adequate fire protection and fire fighting equipment is to be installed / provided which is designed and constructed for the type and quantity of the goods or liquids and the conditions under which they are stored or handled, having regard to:
 - the fire load of the goods or liquids;
 - other exposures;
 - other premises; and
 - compatibility with other goods.
 - 3.3 All fire protection and fire fighting equipment is to be tested regularly and maintained by a **competent person**.
 - 3.4 In the event that the components of the fire protection and fire fighting equipment are rendered unserviceable or inoperative, the implications of the loss of serviceable or operative equipment are assessed as soon as possible, and where necessary:
 - all associated operations, tasks, activities etc., are stopped; or
 - alternative means of fire protection are provided to ensure that levels of protection are maintained; or
 - action is taken to eliminate, as far as practicable, the risks associated with the storage and handling of the **dangerous goods** or **combustible liquids** by modifying processes, storage areas or work practices; and
 - action is taken as soon as practicable, to return the fire fighting and protection equipment to full service and operation.
 - 3.5 On site fire hydrants and fire hose coupling points that may be used by the relevant Fire Authority, are to be suitable for use by that authority.
- 4. Transport
 - 4.1 The dispatching / transportation of any **dangerous goods** or **combustible liquids** is to be undertaken as per the **ADG Code** (refer to relevant **MSDS(s)**).
- 5. Warning Placards
 - 5.1 HAZCHEM placards (i.e. outer warning placards) are to be displayed at every entrance to the site, in a position where they are clearly visible.

Note: Refer to Attachment 3, for placard specifications.

- + + 5.2 Information Placards in accordance with the **ADG Code** are to be adequately fixed and clearly visible in a prominent position at each point of entry into the building(s), and:
 - +
 - Either:
 - + – at every point of entry to a room, enclosure or other area where the goods or liquids are stored; or
 - + – adjacent to the goods or liquids.
- + 5.3 For **dangerous goods** or **combustible liquids** stored outdoors, information placards are to be displayed in prominent locations either:
 - adjacent to the **dangerous goods** or **combustible liquids**; or
 - for goods or liquids in a tank, adjacent to the goods or liquids or on the external surface of the tank.

6. Labelling

- 6.1 All containers of **dangerous goods** or **combustible liquids**, including those delivered to and those produced within the site, are to be labelled in accordance with the **ADG Code** and the National Code of Practice for the Labelling of Workplace Substances.

Note: Refer to Attachment 4, for basic labelling requirements for dangerous goods.

- 6.2 **Labels** are to be firmly secured and printed in a colour, or colours, which provide a distinct contrast to the background colour. All information is to be:
 - on an outside face of the container;
 - in the English language;
 - in durable print; and
 - in lettering of a size and style which is easily legible.
- 6.3 Where a **dangerous good** or **combustible liquid** is decanted and is not used immediately, the container into which the **dangerous good** or **combustible liquid** is decanted is to be clearly labelled with information including the product name and the product's risk and safety phrases in accordance with the **ADG Code** and the National Code of Practice for the Labelling of Workplace Substances.

Note: Refer to Appendix 1 and 2, of the 'National Code of Practice for the Labelling of Workplace Substances', for selected Risk and Safety Phrases.

Note: Where dangerous goods or combustible liquids are decanted and are used immediately, the container into which the goods or liquids have been decanted does not require labelling.

- 6.4 **Dangerous goods** or **combustible liquids** containers are to remain correctly labelled until they are cleaned and no longer contain any goods or liquids.
- 6.5 No person is to remove, deface, modify or alter a correct label of a **dangerous good** or **flammable liquid**.
- 6.6 Pipe work etc., used for the on site storage / transport of any **dangerous good** or **combustible liquid** is to be labelled in accordance with AS 1345 – Identification of the contents of pipes, conduits and ducts.

++ Site Specific Management

+ 1. Registers

- 1.1 SCL sites are to keep and maintain an up-to-date Dangerous Goods Register which is to be made available to **workers**.

Note: Chem Alert may be used for this purpose.

- 1.2 The Dangerous Goods Register is to contain the following information:

- list of all **dangerous goods** and **combustible liquids** stored or handled on site;
- exact name of product;
- manufacturer;
- maximum quantity expected on site (Note: empty gas bottles are to be classified as 'full');
- individual container size (e.g. gas bottle sizes include 'G' size, 'D' size, etc.);
- storage location;
- **dangerous goods class** and subclass (if applicable);
- all **dangerous goods** risk assessments undertaken;
- who is maintaining the register;
- all manufacturer **MSDSs**;
- location of hard copy folders of **Chem Alert MSDSs**; and
- the system being used to maintain the register and the hard copy **MSDS** folders.

- 1.3 When correlating the register, the following factors are also to be identified and detailed (where applicable):

- underground fuel tanks;
- any products batched by SCL (e.g. alkalinity meter reagent, laboratory reagents etc.);
- product intermediates (e.g. powdered fuel instead of coal); and
- waste streams that may be used to make another product (e.g. fly ash may be used to make other products).

2. Site Classification

- 2.1 SCL sites are to have obtained the appropriate licence(s) issued by the relevant authority for the particular State / Territory where the site is located.

For example, Queensland SCL site classifications are to be determined using schedules 1 and 2 of the QLD Dangerous Goods Safety Management Regulation 2001, these classifications are:

- Minor Storage Area;
- Dangerous Goods Location;
- Large Dangerous Goods Location; and
- Major Hazard Facility.

Note: If / when a SCL site becomes a Large Dangerous Goods Location, notification to the relevant authority is to be given within one (1) month of the site becoming a Large Dangerous Goods Location.

Note: A copy of the licence is to be forwarded to the Corporate Property / Town Planning Manager.

3. Manifest and Site Plan

- + + 3.1 A Manifest and Site Plan are to be developed for all SCL sites classified as Large Dangerous Goods Locations or Major Hazard Facilities, and are to also:
 - +
 - include all of the information as detailed in Attachment 5.
 - be kept in a red weatherproof container inside, and as close as possible to, the main entry to the site so that it is easily accessible to emergency services.
 - also be made available to all **workers** / persons exposed to the hazards associated with the storage and / or handling of the **dangerous goods** or **combustible liquids**.

4. Chem Alert

- 4.1 **Chem Alert** can be used to store specific sections of the Dangerous Goods Register including:
 - **MSDSs**;
 - Risk Assessments
 - locations; and
 - maximum quantities.

Note: Each site is to keep hard copies of Chem Alert "WorkSafe format" MSDSs in each consumable store or major storage facility to allow ready access to on-site chemical data. These are to be updated on at least a yearly basis (minimum).

5. Inspections

- 5.1 Where a **dangerous good** or **combustible liquid** is stored in a tank, the tank and all associated pipe work are to be inspected by a **competent person** at twelve (12) monthly intervals (minimum), to ensure their integrity and serviceability.
- 5.2 Internal inspections of storage tanks are to be undertaken only by a **competent person** (i.e. usually the manufacturer) in accordance with specific manufacturer recommendations.

Note: Documented records of all storage tank inspections are to be made and kept by SCL for as long as the storage tank remains in service at the particular site.

6. Batched Substances

- 6.1 When / if an SCL site batches products (e.g. reagents; sodium hypochlorite from sodium chloride etc.), SCL as **Occupier**, also takes on the duties of a Manufacturer of the product. Therefore, an **MSDS** is to be developed for the batched product and entered into **Chem Alert**.

Disposal

1. The **dangerous good** or **combustible liquid** may, as a waste material, constitute a **regulated waste**. **Dangerous goods** or **combustible liquids** disposal is to be undertaken as per **MSDS** instructions and any relevant local and / or state government legislative requirements.
2. All plant, equipment and containers are to be free from **dangerous goods** or **combustible liquids** (as far as practicable), or otherwise made safe where the plant, equipment or containers are no longer intended for use in connection with the goods or liquids, or they are to be disposed of.

++ Personal Protective Equipment (PPE)

- + 1. Where possible, exposure of **workers** to a **dangerous good / combustible liquid** is to be controlled by measures other than the provision of personal protective equipment.
- + 2. Where other control measures do not prevent, nor provide adequate control of exposure of **workers** to a **dangerous good / combustible liquid**, then, in addition to those measures / controls **workers** are to use PPE in accordance with the relevant **MSDS** / manufacturer recommendations.
- + 3. **Workers** are to be provided with appropriate training / instruction in the proper selection, use and maintenance of any personal protective equipment provided for use.

Training and Competency

1. SCL is to ensure that all **workers** who may be required to handle, or who may otherwise be exposed to **dangerous goods** or **combustible liquids**, receive adequate instruction / training in relation to the specific hazards associated with those goods or liquids:
 - (a) in a language or manner appropriate to the person involved; and
 - (b) appropriate to the hazards identified and the tasks undertaken.
2. For **workers** involved in the use and / or storage of **dangerous goods** or **combustible liquids**, the information and training provided is to include instruction in the:
 - nature of the hazards and properties of the **dangerous goods** or **combustible liquids** and the processes used for the identification, assessment and control of the risks relevant to the person's duties;
 - use and maintenance of the processes for the control of those risks;
 - safety systems (where applicable), the systems of work and the safe management of, and conduct in, the site in so far as they apply to **dangerous goods** or **combustible liquids**;
 - effective operation of the emergency plans for the site and any procedures and equipment which may be required for use in the event of an emergency; and
 - correct selection, use, fitting and maintenance of PPE.
3. **Worker(s)** involved in the dispatching / transportation of **dangerous goods** or **combustible liquids** off site are to be adequately trained and licenced to transport the goods or liquids in accordance with the **ADG Code**.
4. Relevant **workers** are to be instructed in the use of **Chem Alert** as per HB#551048 – HS048 – Chem Alert II Training Rationale.
5. **Workers** are to be provided with relevant information regarding Dangerous Goods Management. Refer HB#551043 – HS044 – Hazardous Substances and Dangerous Goods Awareness Training.
6. Records of induction and training activities are to be kept for a minimum of five (5) years.

Review

This corporate standard is reviewed every 2 years

++ Links and References

- + [HB# 625195: Hazardous Areas](#)
- + [HB# 625157: Hazardous Substance Management](#)
- + [HB#623735: Hazardous Substances and Dangerous Goods Management Awareness Training](#)
- + [HB#551048: HS048 – Chem Alert II Training Rationale](#)
- + [HB#551043: HS044 – Hazardous Substances and Dangerous Goods Awareness Training](#)

[SCL Form – HS&E Hazard / Incident Notification \(Yellow\) Form.](#)

QLD Dangerous Goods Safety Management Act, 2001
QLD Dangerous Goods Safety Management Regulation, 2001
QLD Environmental Protection Act 1994
VIC Occupational Health & Safety Act 1985, Part 3, Division 2
VIC Dangerous Goods (Storage and Handling) Regulations, 2000
VIC Occupational Health and Safety (Major Hazard Facilities) Regulations, 2000
WA Occupational Safety and Health Regulations 1996, Part 5, Division 2
WA Dangerous Goods (Transport) (General) Regulations, 1999
SA Occupational Health, Safety & Welfare Regulation 1995, Division 4.1
SA Dangerous Substances Act, 1979
SA Dangerous Substances Regulation, 1978
NSW Occupational Health & Safety Act 2000
TAS Workplace Health & Safety Regulations 1998, Part 4, Division 2
TAS Dangerous Goods Act, 1998
NT Work Health Act,
NT Dangerous Goods Act, 1996
NT Dangerous Goods Regulations, 1994
ACT Dangerous Substances Act, 2004
ACT Dangerous Substances (General) Regulations, 2004

Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG) Code

NOHSC National Standards for Storage and Handling of Workplace Dangerous Goods, 2001
NOHSC National Code of Practice for the Labelling of Workplace Substances, 1994
NOHSC National Code of Practice for the Preparation of Material Safety Data Sheets 2nd edition, 2003
NOHSC Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment 1995

AS 1940: 2004 – The storage and handling of flammable and combustible liquids.
AS 1216: 2006 - Class labels for dangerous goods
AS 2030.1 / (Amdt-1 2002) – The verification, filling, inspection, testing and maintenance of cylinders for storage and transport of compressed gasses: cylinders for compressed gases other than acetylene
AS 2381.1:1999 / (Amdt-1 2003) – Electrical equipment for explosive atmospheres – selection, installation and maintenance: general requirements
AS 1345: 1995 – Identification of the contents of pipes, conduits and ducts
AS/NZS 1768:2007 – Lighting protection
AS/NZS 3000:2000 (Amdt-1 2001) – Electrical installations

+ + Attachments

- + Attachment 1: Dangerous Goods Classes / Labels
- + Attachment 2: Dangerous Goods Risk Assessment Checklist
- + Attachment 3: Placard Specifications
- + Attachment 4: Basic Labelling Requirements for Dangerous Goods
- + Attachment 5: Contents for Dangerous Goods Manifest / Site Plan
- + Attachment 6: Audit Checklist

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Amd Date 27/04/2007

Attachment 1: Dangerous Goods Classes/Labels

Class labels have specified colours, which are not shown in this illustration. The ADG Code gives full-colour renditions of the labels.



Class 2.1 Flammable gases



Class 4.1 Flammable Solids



Class 6.1 Toxic substances



Class 2.2 Non-Flammable Non-toxic gases



Class 4.2 Substances liable to spontaneous combustion



Class 8 Corrosive substances



Class 2.2 Subrisk: 5.1 Oxidizing gas



Class 4.3 Substances that in contact with water emit flammable gases



Class 9 Miscellaneous dangerous goods



Class 2.3 Toxic gas



Class 5.1 Oxidizing Substances



Mixed classes



Class 3 Flammable Liquids



Class 5.2 Organic peroxides



Goods Too Dangerous To Be Transported

(CHEM Services - DGSM Information Paper No. 1 – Placarding for dangerous goods storage: Appendix 2)

Attachment 2: Dangerous Goods Risk Assessment Checklist

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Dangerous Goods Risk Assessment Check list for Dangerous Goods Storage Areas.

This Checklist is to be used to assist in undertaking dangerous goods risk assessments, as per [HB#625141: Dangerous Goods Management](#), and is NOT to be used as a substitute for the risk management process.

If the answer is 'NO' to any of the following questions then additional controls may need to be implemented to mitigate the risk in the area.

Please note that appendix 8 of the NOHSC National Code for "Storage and Handling of Workplace Dangerous Goods" has a useful evaluation form that provides many engineering control solutions for the problems listed below.

Site: _____

Storage Area: _____

Part A - General

No.	Question	Yes	No	Unsure	N/A
1.	Emergency Manifest				
	DOES THE SITE HAVE AN EMERGENCY MANIFEST LOCATED IN A RED WEATHER-PROOF BOX AT THE FRONT GATE? (I.E. ONLY FOR LARGE DANGEROUS GOODS LOCATIONS AND MAJOR HAZARD FACILITIES)				
2.	Transport				
	If dangerous goods are dispatched off site (e.g. empty gas cylinders, drums containing goods etc.) , have the personnel dispatching the goods received training in the requirements for dispatching such goods as per the ADG code?				
	If dangerous goods are dispatched off site (e.g. empty gas cylinders, returning drums containing goods etc.) are the carriers used licenced to carry the goods?				
3.	Fire Fighting (May require an external audit. Recommended for Major Hazard Facilities or Large Dangerous Goods locations)				
	If the site's fire fighting system is water based, is the water supply reliable?				
	If the site's fire fighting system is water based, is the water supply adequate to deal with a major chemical emergency that could be experienced at the site?				
	Are the site's fire fighting systems and alarms in accordance with relevant Australian Standards?				
	If maintenance is to be performed on the fire fighting system (i.e. that renders it inoperable) are hazardous processes and operations shut down until fire fighting systems are returned to service?				

No.	Question	Yes	No	Unsure	N/A
	Is fire fighting equipment located in a position(s) where it can adequately reach the site/area of any dangerous goods that require protecting?				
4.	Communication and Signage				
	If certain personnel on site are not literate in English, are there adequate measures in place to convey hazard information from MSDS's, signage and procedures to these personnel?				
	Is the overall site placarding adequate (i.e. in accordance with relevant Dangerous Goods Regulations)?				

Part B - Specific (Note: Carried out for storage location, associated pipework and plant)

Site: _____

Storage Area: _____

No.	Question	Yes	No	Unsure	N/A
1.	Information and labelling				
	Are MSDSs available for the dangerous goods in the storage area?				
	If the area requires placards and signage are these in good condition, clear and visible?				
	If procedures are required for the handling of goods, are these procedures made available to workers and up to date?				
	IS THE STORAGE AREA'S PLACARDING ADEQUATE (I.E. IN ACCORDANCE WITH RELEVANT DANGEROUS GOODS REGULATIONS)?				
	IS THE STORAGE AREA IDENTIFIED/REFLECTED IN THE DANGEROUS GOODS REGISTER?				
2.	Area Design and set up				
	Is the design of the storage area in accordance with relevant Australian Standards and Dangerous Goods Regulations?				
	Is there adequate segregation of incompatible Dangerous Goods Classes?				
	Is the storage area protected from impact?				
	Are the drains in the storage area adequate to effectively capture spilled goods?				
	If the storage area has bunding or other methods of containing spills is it in good condition?				
	Does the storage area contain adequate fire protection or deluge systems?				
	Is the lighting in the storage area adequate?				

No.	Question	Yes	No	Unsure	N/A
	If the storage area is classified as a 'hazardous area', is the lighting in accordance with AS/NZS 1768?				
3.	Training				
	If storage area/goods specific training is required is this documented? (i.e details of the training package)?				
	If storage area/goods specific training is required are training records documented and maintained?				
	If storage area/goods specific training is required is there a system in place to ensure workers receive the training before being exposed to the hazard?				
	If applicable, have workers been trained in spill containment of the goods?				
4.	PPE				
	Where PPE is required to be used/worn in the storage area or when handling goods, have all relevant workers been trained in its proper selection, use and maintenance?				
	Is there a system to ensure PPE is maintained in good condition?				
5.	Flammable Goods, Combustible Goods and Intermediates				
	If combustible goods are stored on site, are they kept at suitably low temperatures? (e.g. a shipping container with hundreds of kilos of aerosol cans could be a major hazard if the temperature in the container rises above 50°C).				
	Is there adequate segregation of Combustible Liquids from incompatible goods or ignition sources?				
	Does the site have a flammable store licence from the local council for the area? Is it filed in Safe Custody, available on The Right to Operate Site and entered into Contract Manager?				
	If the storage area is a hazardous area, does all electrical equipment in the area meet with the AS 2381 series & AS 3000?				
	If the storage area is a hazardous area, have zones been clearly designated, and is this reflected in work procedures associated with the area?				
	If the storage area is a hazardous area, are people working in / accessing the area trained in the relevant safety requirements?				
	Is the above training documented and maintained?				
	If the storage area is a hazardous area, is adequate signage available to warn of the hazard of smoking in the area?				
	Is there adequate fire protection in the storage area? (e.g. correct fire extinguishers and fire blankets in a flammables store)				
6.	Transport of Goods				
	Has the risk been assessed relating to the transportation of dangerous goods on site? (e.g. transporting an ammonia bullet around site on a forklift can constitute a major risk).				

No.	Question	Yes	No	Unsure	N/A
7.	Miscellaneous				
	If there is a risk to visitors from the dangerous goods, are adequate controls in place?				
	If a particular site process may result in the forming of 'intermediates', have the risks for these intermediates been assessed? (e.g. coal would normally not be assessed, however the intermediate of Pulverised Fuel would require assessment).				
	Has the risk of adverse weather conditions been considered in the risk assessment? (e.g. flooding, cyclones, lightning, temperature extremes).				
	If incidents have been logged relating to a storage area or the handling of a dangerous good, has this been taken into consideration within the risk assessment?				
8.	Emergency Response				
	Is there a documented system/procedure for spill containment?				
	Is the equipment for spill containment available and in good condition?				
	Are emergency response procedures adequate for handling emergencies from this substance?				
	If the area could trigger an area or site evacuation, has an emergency exercise been tested to assess the effectiveness of this evacuation?				
	Are the goods identified/reflected in the site emergency manifest?				
9.	Handling and Use				
	Are procedures available for the safe handling or use of the dangerous goods?				
	If products are batched from a substance are MSDS's available for the batched product?				
	Is the disposal of goods carried out in accordance with MSDSs and relevant local/state government regulations?				
10.	Tanks and Bulk Containers				
	Do all tanks meet with relevant Australian standards?				
	If tanks require cathodic protection, is this provided?				
	Is the cathodic protection being maintained?				
	If the tank is located underground, is testing performed to monitor for leaks? (e.g. groundwater tests for hydrocarbons).				
	Is adequate maintenance performed on the tanks to ensure their structural integrity?				
	Are the foundations of bulk containers adequate to support its weight?				
11.	Compressed Gas cylinders				
	Note: The following section is only used for cylinders that the site fills themselves (e.g. BBQ gas bottles).				
	Are the markings on the cylinders in accordance with AS 2030.1?				
	Are all cylinders within the period of test validity? (is there a system for ensuring this)?				

No.	Question	Yes	No	Unsure	N/A
	Are cylinders inspected for excessive corrosion, physical damage, serviceability of valves etc?				
	Are all gas cylinders filled only with the gas that they are designed for?				
	Have personnel filling gas cylinders received appropriate training?				
12.	Pipe work				
	Is maintenance on pipe work adequate to maintain its integrity?				
	Has the risk to plant, people and the environment pipe work failure been assessed and managed?				
	Is the pipe-work clearly labelled in accordance with AS 1345?				
	If modifications have been performed by adding additional pipe work to a vessel, do these modifications have engineering approval?				
13.	Ventilation				
	Is the ventilation in the storage area adequate?				
	If substance vapours are heavier than air does the ventilation system purge the 'low points' of the storage area enough to prevent a hazardous build up of vapours?				
	If the substances vapours are lighter than air does the ventilation system purge the 'high points' of the storage area enough to prevent a hazardous build up of vapours?				
14.	Security (Primarily Large Dangerous Goods locations and Major Hazard Facilities)				
	Is the Dangerous Goods storage area/location secure from the likelihood of unauthorised access? (e.g. area may be locked or fenced, security guards may be employed etc.)				
15.	Catastrophic failures that may bypass major controls.				
	If it is possible to bypass the control system (e.g. through using manual valves, masking alarms, etc.), is there ANY POSSIBILITY that a catastrophic incident could occur?				
	If the answer to the above question is YES - are there protocols/procedures in place to eliminate or reduce the above risk, and are these protocols/procedures being followed?				
	Does the design of the plant prevent catastrophic failure during the process of isolation? (Note: risk assessments should consider the possibility of 'designing out' the risk).				
	If the answer to the above question is NO - are there protocols/procedures within the PTW system to ensure this event cannot occur?				

Assessor Signature: _____

Assessor Name (printed): _____

Date of assessment: _____

++ Attachment 3: Placard Specifications

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+ REQUIREMENTS FOR PLACARDS

+ The purpose of this schedule is to specify the form of placards required by this national standard.

+ 1 Placards for *Bulk Dangerous Goods*

A placard for *bulk dangerous goods* must conform with the following requirements:

- (1) The placard *must* be of dimensions not less than those shown in Figure 1 or in accordance with the *ADG Code* in respect of Emergency Information Panels.
- (2) For the *bulk dangerous goods* the following particulars *must* be shown in the spaces corresponding to those designated (p), (q), (r) and (s) in Figure 1:
 - (a) in space (p), the *Proper Shipping Name*;
 - (b) in space (q), the *UN Number*;
 - (c) in space (r), the *Hazchem Code*;
 - (d) in space (s), the *Class label*, and *Subsidiary Risk label* if any; and
 - (e) for more than one *Subsidiary Risk label* the width of the right hand portion of the placard may be extended.
- (3) The numerals and letters used for showing the *Proper Shipping Name*, *UN Number* and *Hazchem Code* *must* be:
 - (a) black on a white background, except where a letter of the *Hazchem Code* is white on a black background; and
 - (b) at least 100 mm high, except where the *Proper Shipping Name* requires two lines to be used, in which case the lettering *must* be at least 50 mm high.
- (4) The *Class label* *must*:
 - (a) be of the form and colouring specified in the *ADG Code*; and
 - (b) have sides of not less than 250 mm or, if a *Subsidiary Risk label* is also shown, have sides of not less than 200 mm.
- (5) The *Subsidiary Risk label*, if any, *must*:
 - (a) be of the form and colouring specified in the *ADG Code*; and
 - (b) have sides of not less than 150 mm.

Placard Template and Sample Placard

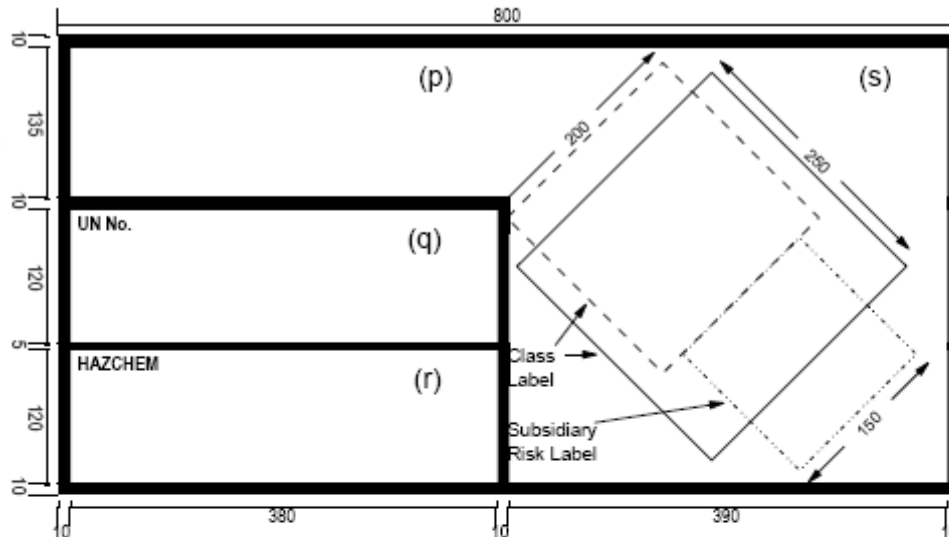


Figure 1 - Template for a placard for *bulk dangerous goods*

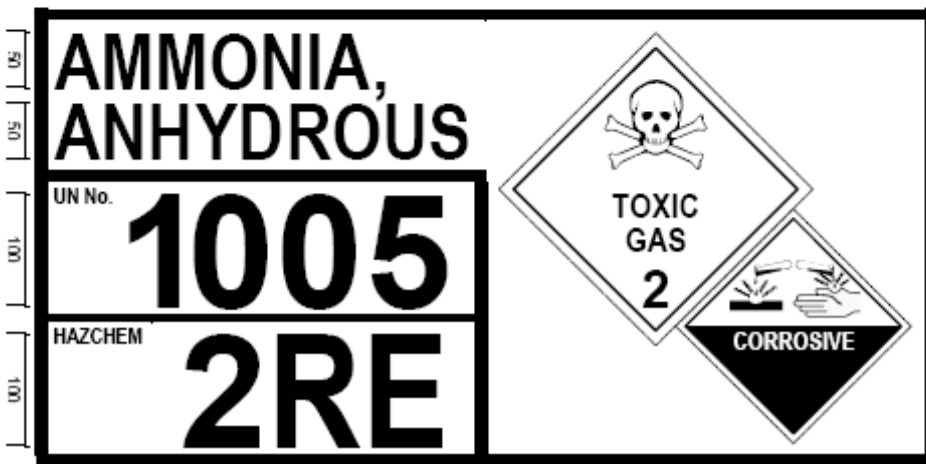


Figure 2 - Sample of a placard for a *bulk dangerous goods*

2 C1 Combustible Liquids Placard

A *Combustible liquid* placard for C1 *combustible liquids* must display the words 'COMBUSTIBLE LIQUID' as shown in Figure 3 in black letters of that style and not less than 100 mm high, shown on a white or silver background.



Figure 3 - Combustible Liquid Placard for C1 combustible liquids

3 Placards for Packaged Dangerous Goods

A placard for a *dangerous goods* stored in *packages* must conform to the following requirements:

- (1) Display the *Class label* or labels appropriate to the *Class* or *Classes* in respect of all the *dangerous goods* stored in the building, structure, room, compartment or outdoor storage areas to which the placard relates.
- (2) Be of the form and colouring specified in the *ADG Code* and *must* have sides not less than 100 mm in length.

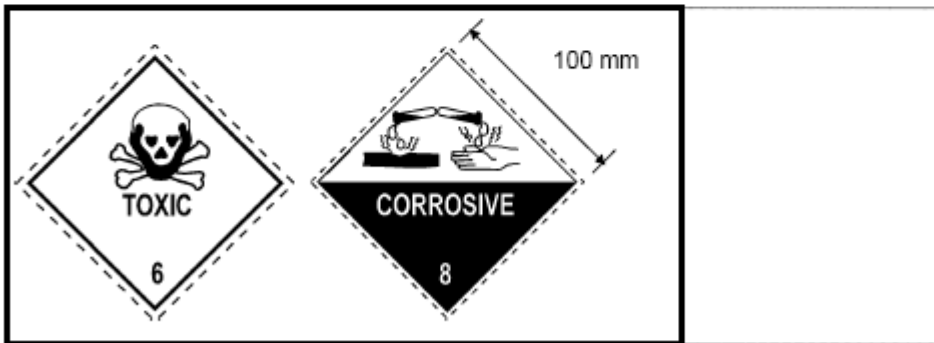


Figure 4 - Form and dimensions of a placard for a dangerous goods stored in packages

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+ + **4 Outer Warning Placard**

+ An Outer Warning Placard for *dangerous goods* and/or *combustible liquids* must conform with the following requirements:

- + (1) The placard *must* not be less than the dimensions shown in Figure 5.
- + (2) The placard *must* be lettered 'HAZCHEM' as shown in Figure 5, in red letters of that style and not be less than 100 mm high, shown on a white or silver background.



Figure 5 - Form and dimensions of an Outer Warning Placard

5 Goods too Dangerous to be Transported Placard

A placard for *goods too dangerous to be transported* must display ...[see Note below] as shown in Figure [].

Implementation Note:

The design of an appropriate placard for 'Goods Too Dangerous To Transport' will be completed in 2001

(National Standard for the Storage and Handling of Workplace Dangerous Goods [NOHSC: 1015 (2001)] – Schedule 2)

+ + Attachment 4: Basic Labelling Requirements Plan

+ INFORMATION REQUIRED ON LABELS FOR CONTAINERS WITH A CAPACITY OF MORE THAN 500mL(g)

- + (a) signal word(s) and / or dangerous goods class and subsidiary risk label(s) (where applicable);
- + (b) identification information:
 - product name;
 - chemical name;
 - United Nations (UN) Number (where required by the ADG Code), and
 - ingredients and formulation details (where relevant);
- (c) risk phrase(s); *
- (d) directions for use (where appropriate);
- (e) safety phrase(s); *
- (f) first aid procedures;
- (g) details of manufacturer or importer;
- (h) expiry date (where relevant); and
- (i) reference to the MSDS.

INFORMATION REQUIRED ON LABELS FOR CONTAINERS WITH A CAPACITY OF LESS THAN 500mL(g)

Note: It is recognised that small containers may have inadequate space to include all the information needed on the label in a style and size that is legible and clearly distinguishable from other markings on the container. The information needed on labels for small containers is therefore a subset of that for containers of more than 500mL(g).

- (a) signal word(s) and / or dangerous goods class and subsidiary risk label(s) (where applicable);
- (b) product name;
- (c) chemical name;
- (d) risk phrase(s) (at least the most significant phrase(s)); *
- (e) safety phrase(s) (at least the most significant phrase(s));*
- (f) first aid procedures;
- (g) details of manufacturer or importer; and
- (h) reference to the MSDS.

Where a container of a dangerous good is so small that this information cannot be provided on the actual container, the container is to be labelled with at least:

- (a) signal word(s) and / or the dangerous goods class and subsidiary risk label(s) (where applicable);
- (b) product name; and
- (c) details of manufacturer or importer.

In these circumstances, consideration is to be given to other methods of providing additional information, such as on outer packaging or leaflets. Alternative packaging can be used to give maximum clarity to the information and allow the full set of information to be supplied.

***Note: Refer to the National Code of Practice for the Labelling of Workplace Substances 1994, for selected Risk and Safety Phrases.**

(National Code of Practice for the Labelling of Workplace Substances, 1994)

Attachment 5: Contents for Dangerous Goods Manifest / Site Plan

CONTENTS FOR DANGEROUS GOODS MANIFEST

(A Dangerous Goods Manifest must contain all of the following information (where applicable))

- (a) date when the information was prepared;
- (b) name of the occupier (i.e. SCL) and address of the premises;
- (c) contact information for two (2) people who may be contacted in case of emergency;
- (d) location and type of storages of:
 - (i) dangerous goods;
 - (ii) combustible liquids stored with fire risk dangerous goods where the combustible liquids are:
 - in bulk; or
 - packaged combustible liquids in an aggregate quantity greater than 1,000 kg or L in a storage area; and
 - (iii) C1 combustible liquids when stored and handled in isolation from dangerous goods;
- (e) class and packaging group of dangerous goods at the premises;
- (f) for bulk containers, excluding IBCs, the number and capacity of each container;
- (g) for packages, containers and IBCs, the current aggregate quantity of each Class of dangerous goods or the maximum and average quantities of each Class of dangerous goods;
- (h) proper *Shipping Name* or *Product Name* and *UN Number* for all bulk storages of dangerous goods other than IBCs;
- (i) proper Shipping Name or product name and UN Number for all *Class 2.3 Dangerous Goods* and *Packing Group I Dangerous Goods*; and
- (j) a plan of the premises.

CONTENTS FOR DANGEROUS GOODS SITE PLAN

(The Site Plan of the premises must contain all of the following information (where applicable))

- (a) location of essential site services including fire services and isolation points for fuel and power;
- (b) location of the manifest for the premises;
- (c) main entrance and other entry points to the premises;
- (d) classes of dangerous goods;
- (e) location of:
 - (i) dangerous goods;
 - (ii) combustible liquids stored and handled with fire risk dangerous goods where the combustible liquids are:
 - in bulk; or
 - packaged combustible liquids in an aggregate quantity greater than 1,000 kg or L in a storage area; and
 - (iii) C1 combustible liquids when stored and handled in isolation from dangerous goods;
- (f) storages and how they are identified;
- (g) manufacturing and process areas;
- (h) location of all drains on the site ; and
- (i) nature of adjoining sites or premises.

(NOHSC: National Standard - Storage and Handling of Workplace Dangerous Goods, 2001)

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Attachment 6: Audit Checklist

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SCL Site: _____ Date: ____ / ____ / ____ Conducted By: _____ Position: _____
(Print First & Last Names)

Item	Status	Action Required	Responsible Person	Completed (Insert Date & Initials)
Risk Assessment				
Risk assessments undertaken and kept for all dangerous goods in accordance with Corporate Standard?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Review of risk assessments is undertaken at least every 5 years or as required by this Corporate Standard?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Specific Controls				
Site has obtained appropriate licence(s)?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Incompatible dangerous goods and combustible liquids stored separately?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Gas cylinders –				
▪ comply with the relevant Australian Standard(s)?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
▪ are filled with the gas for which they are designed?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
▪ are inspected as per the Australian Standard?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
▪ are filled only by those persons with appropriate training?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Emergency plan developed and maintained on site?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Copy of Emergency Plan given to Emergency	Yes <input type="checkbox"/> No <input type="checkbox"/>			

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Services Authority?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Emergency plan communicated to all persons on site who may be affected by or respond to an emergency involving dangerous goods or combustible liquids?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Where applicable, relevant elements of the emergency plan are provided to persons on adjacent premises?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Clean-up kit kept on site?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Pipe work, attachments and containers protected against damage from work activities?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Spills recorded on HS&E Hazard Incident Notification Forms and maintained on site?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>		
Ignition sources in storage areas eliminated / controlled?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Adequate fire protection and fire fighting equipment installed/provided which is designed and constructed for the type and quantity of the goods and liquids and the conditions under which they are stored and handled?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Fire hydrants and coupling points suitable for fire authority equipment?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
All fire protection and fire fighting equipment tested regularly and maintained by a competent person?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Transport					
The dispatching/transportation of any dangerous goods or combustible liquids is undertaken as per the ADG Code?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			

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Item	Status	Action Required	Responsible Person	Completed (Insert Date & Initials)
Warning Placards and Labelling				
HAZCHEM placards clearly displayed at all site entrances?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Information placards fixed and visible in prominent positions at each building entry?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Information placards fixed and visible either: <ul style="list-style-type: none"> ▪ at every point of entry to a room, enclosure or other area where the goods or liquids are stored; or ▪ adjacent to the goods or liquids. 	Yes <input type="checkbox"/> No <input type="checkbox"/>			
For dangerous goods or combustible liquids that are stored outdoors, are information placards displayed in prominent locations either: <ul style="list-style-type: none"> ▪ adjacent to the dangerous goods or combustible liquids; or ▪ for goods or liquids in a tank, adjacent to the goods or liquids or on the external surface of the tank? 	Yes <input type="checkbox"/> No <input type="checkbox"/>			
All containers labelled in accordance with Corporate Standard?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is pipe work etc., used for the on site storage / transport of any dangerous good or combustible liquid labelled in accordance with AS 1345?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Registers				
Is a Dangerous Goods Register kept, maintained and made available to workers?	Yes <input type="checkbox"/> No <input type="checkbox"/>			

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Does the Dangerous Goods Register contain the information required by this Corporate Standard?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Site Classification					
Has the site obtained the appropriate licences where required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Has a copy of licences been forwarded to the Corporate Property / Town Planning Manager?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Manifest and Site Plan					
Manifest and Site Plan developed and maintained as per the requirements of this standard where site is a Large Dangerous Goods Location or Major Hazard Facility?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>		
Inspections					
Storage tanks and associated pipework inspected by competent person at 12 monthly intervals?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Internal inspections of storage tanks are in accordance with specific manufacturer recommendations?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Are records of all inspections kept?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
MSDSs					
MSDSs obtained for all dangerous goods/combustible goods?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
MSDSs developed by SCL for all batched products?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>		
Personal Protective Equipment					
PPE provided/used in accordance with MSDS/manufacturer recommendations where required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Workers provided with appropriate training / instruction in the proper selection, use and	Yes <input type="checkbox"/>	No <input type="checkbox"/>			



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maintenance of any PPE provided for use?					
Training and Competency					
Workers (including new workers) have received instruction / training in accordance with Corporate Standard?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
Relevant workers instructed in the use of Chem Alert as per Chem Alert II Training Rationale?					
Workers provided with relevant information as per Hazardous Substances and Dangerous Goods Awareness Training Rationale?					
Workers involved in transportation of dangerous goods adequately trained and hold appropriate licence?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>		
Records of induction and training kept on site?	Yes <input type="checkbox"/>	No <input type="checkbox"/>			

Other / Further Details:

Signature of Person Conducting Inspection: _____

Copies Provided to: _____

(Print First & Last Names)