

# Placarding of Chemical Storage Areas Guideline

## Section 1 - Purpose and Scope

(1) This Guideline provides advice to persons in control of chemical storage areas and placarding, of dangerous goods and combustible liquids, for effective and efficient emergency action by emergency responders. This Guideline applies to all University of Queensland (UQ) organisational units or areas that have chemical storage locations under their control and guides them to identify when placarding is needed and the type of placards required.

(2) Emergency responders require information regarding the type, quantity and locations of dangerous goods and combustible liquids stored at the premises in order to respond appropriately to fires and chemical spills.

## Section 2 - Process and Key Controls

(3) Placards are applicable to storages of Schedule 11 hazardous chemicals (see the Appendix) under the [Work Health and Safety Regulation 2011](#) ([the Regulation](#)). Placarding requirements under [the Regulation](#) are the same as the former Dangerous Goods Safety Management Regulation 2001 (repealed on 31 December 2011) with the following differences:

- a. [Globally Harmonised System \(GHS\)](#) categories are now reflected in the placarding and manifest table ([Schedule 11](#)) replacing the references to the ADG Code dangerous goods classes, divisions, and packing groups.
- b. Prescribed placarding quantity for flammable gases (e.g. LP gas and acetylene in cylinders at a workplace) is reduced from 500 litres to 200 litres.
- c. Prescribed placarding quantity for industrial gases (e.g. compressed nitrogen, argon or oxygen in cylinders) is reduced to 1000 litres; and
- d. Class 9 dangerous goods are no longer included in Schedule 11 table for placarding.

(4) Placards serve to:

- a. Alert emergency services to the presence of dangerous goods.
- b. Identify dangerous goods stored in bulk.
- c. Identify areas where significant quantities of dangerous goods in packages are stored.
- d. Identify the hazards of goods present; and
- e. Indicate the required emergency actions for dangerous goods in tanks through the use of the HAZCHEM code.

(5) Key controls are:

- a. Identification of chemical storage areas requiring placarding.
- b. Identify the type of placard and location.
- c. Updating of chemical registers that inform local and overall UQ manifest.

# Section 3 - Key Requirements

## Part A - Placarding Requirements

(6) After the identification of a need for placarding, the organisational unit or area should use this Guideline to ascertain the type and location for the placard or placards. Placards are required to be made of durable and weather-resistant material and be maintained in good repair and legible condition. They must be amended as soon as practicable if there is a change in the type or quantity of goods held that requires a change to the information displayed as per the Workplace Health and Safety Queensland [Placarding For Storage Of Hazardous Chemicals](#). UQ [Property and Facilities Division](#) might be the relevant unit to action the update of the placard signage.

### Types of Placards

(7) The types of placards under [the Regulation](#) include:

- a. outer warning placard for the entrance to the workplace;
- b. information placards for hazardous chemicals in bulk (i.e., tanks and stockpiles), P&F advice and approval must be sort; and
- c. information placards for hazardous chemicals in packages.

### Outer Warning Placards

(8) An outer warning placard, or HAZCHEM sign, is required at the entrance to the workplace when the workplace exceeds a prescribed placarding quantity in the Schedule 11 table. It must conform to the design in Schedule 13 of [the Regulation](#) as shown below. The word HAZCHEM must be in red lettering, not less than 100 mm high, on a white or silver background.

See linked image: [Outer Warning Placards - HAZCHEM sign](#).

### Information Placards for Hazardous Chemicals in Bulk

(9) Bulk containers have specific dimensions and specifications for placarding and this can be found in [Placarding For Storage Of Hazardous Chemicals](#).

(10) Placard information includes:

- a. the proper shipping name;
- b. UN number;
- c. HAZCHEM code;
- d. ADG Code class label;
- e. Subsidiary risk label (if applicable).

### Information Placards for Hazardous Chemicals in Packages

(11) Individual storage areas where hazardous chemicals in packages are kept, must display an information placard when the prescribed placarding quantities in Schedule 11 table are exceeded.

(12) The placard must have a white or silver background and be large enough to accommodate the number of class labels required to be displayed on it. The class label (i.e. 'diamond') must have sides not less than 100mm. The class labels required by [the Regulation](#) should be grouped together. They need not be placed in the one horizontal line on a

shared sign as illustrated in Schedule 13 of [the Regulation](#), provided they are clearly visible against a contrasting background. Vertical or diagonal grouping is equally acceptable.

(13) Work areas must keep a Chemical Manifest up to date in accordance with the [Chemical Manifest Procedure](#).

See linked image: [Information placards for hazardous chemicals in packages](#).

### **Information Placards for Hazardous Chemicals in Bulk**

(14) Individual storage areas where hazardous chemicals in bulk (i.e., tanks and stockpiles) are held must comply with Schedule 13 of [the Regulation](#). Advice and input from UQ Property and Facilities Division must be sort by organisational units that hold chemicals in bulk. This Guideline does not address these bulk stores.

See linked image: [Combustible liquids in packages](#).

### **Combustible Liquids in Packages**

(15) Placards for Category 4 flammable liquids (i.e. C1 combustible liquids having a flash point  $>60^{\circ}\text{C}$  to  $\leq 93^{\circ}\text{C}$ ) must have the words COMBUSTIBLE LIQUID in lettering not less than 100 mm high in black on a white or silver background.

(16) Schedule 13 clause 6 (3) (b) requires a Class 3 label to be displayed when packages containing combustible liquids are stored with packages containing flammable liquids. A combustible liquid placard will not be applicable in this case.

## **Part B - Location of Placards**

(17) An outer warning placard must be displayed on every entrance to a workplace so that it is clearly visible from normal approaches.

(18) Information placards must be located within the workplace at the relevant storage location so that they are clearly visible from normal approaches.

(19) For hazardous chemicals stored in an indoor area, the information placards must be located:

- a. at the main point of entry to the building where the goods are stored; and
- b. at the entry to each room or area where the goods are stored.

(20) For hazardous chemicals stored in an outdoor area, the placard must be located either adjacent to them, or when storage is a tank, on the external surface of the tank or adjacent to the tank. The warning placard must be positioned separately from any other sign or notice so that the placard is not capable of being confused with the other sign or notice. Placards must be kept legible and unobstructed.

See linked image: [Location of placards](#).

## **Part C - Placarding for a Packaging Store**

(21) To identify the placarding for a package store, the quantity of hazardous chemicals for each GHS category at the workplace must be determined and compared with the prescribed placarding quantity in column 3 of the Schedule 11 table (see the Appendix).

(22) For the purposes of this calculation, all hazardous chemical packages should be assumed to be full, even if they are not.

## Section 4 - Roles, Responsibilities and Accountabilities

### Head of Organisational Units

(23) Heads of Organisational Units must ensure that:

- a. Workers are not put at risk from work with hazardous chemicals, or substances in storage.
- b. Hazardous chemicals are used, handled and stored safely, with appropriate placarding in their area of responsibility. The risk of physical or chemical reaction of hazardous chemicals, including ignition sources or accumulation of flammable and combustible substances, should be identified, and the stability of the hazardous chemicals must be ensured.
- c. Workers are provided with adequate information, training and supervision in the use, handling and storage of hazardous chemicals.
- d. Risk assessments are completed for the handling and storage of hazardous chemicals within their area of responsibility, referencing [the Regulation](#), Codes of Practice and Australian Standards were applicable.
- e. A current manifest is available that reflects the current chemical holdings to ensure that placarding reflects the holdings.

### Supervisors

(24) Supervisors, including academic Supervisors of Higher Degree by Research students, are responsible for:

- a. Monitoring compliance with this Guideline.
- b. Ensuring workers complete risk assessments, including the requirements for storage and placarding for hazardous chemicals that they bring into the University.
- c. Update manifest as required to reflect the current chemical holdings to ensure that placarding reflects the holdings.
- d. Advise Property and Facilities Division of changes to chemical holdings that may affect the changes to placarding for bulk chemical storage areas or the University campus' as a whole.

### UQ Workers

(25) UQ workers are responsible for:

- a. Complying with this Guideline, and taking reasonable care of their own health and safety and not adversely affecting the health and safety of others.
- b. Completing risk assessments for the hazardous chemicals that they use, handle and store and ensuring that the appropriate segregation of chemicals is undertaken.
- c. Advise their Supervisor of changes to chemical holdings that may affect the changes to placarding for bulk chemical storage areas.

(26) If unsure about any aspect of safe storage of chemicals and placarding seek specialist advice from the direct Supervisor, organisational unit HSW Support (Manager or Work Health and Safety Coordinator (WHSC)) or the Health, Safety and Wellness Division (HSW Division).

## Property and Facilities Division

(27) For bulk storage area and the grounds of the University, appropriate placarding for the hazardous chemicals on campus must be determined and erected as per [Placarding For Storage Of Hazardous Chemicals](#).

(28) Changes to UQ placarding must be updated as required, and if applicable, notification to Emergency Services and the Fire Safety Adviser.

## Faculty and Institute Safety Managers and WHSC

(29) Safety Manager and WHSCs are responsible for assisting workers in their areas in complying with the requirements of this Guideline, referencing [the Regulation](#), Codes of Practice and Australian Standards where applicable.

## Health, Safety and Wellness Division

(30) Health, Safety and Wellness Division will review this Guideline, as required, to ensure its accuracy and relevance. Specialist advisers can provide specialist advice on the use, handling, storage and placarding requirements of hazardous chemicals where required.

# Section 5 - Monitoring, Review and Assurance

(31) Head of Organisational Units and Supervisors should review chemical holdings, storage and placarding on a regular basis, following incidents and near misses, and after changes to processes or procedures. They must also undertake annual workplace inspections and the review of chemical storage and placarding is including in this. This will inform when the need for updating placarding in their areas is required.

(32) Internal Audit undertaken by the Health, Safety and Wellness Division periodically review chemicals - use, storage, and transport with the University.

# Section 6 - Recording and Reporting

(33) Organisational units are responsible for accurate recording of chemicals in chemical registers as per the [Chemical Manifest Procedure](#). This is important because it provides critical information for placarding, hazard zones, emergency response, requirements capabilities and response.

(34) Organisational units are responsible to report to the relevant UQ personnel or unit the need to update their area placarding.

# Section 7 - Appendix

## Schedule 11 of the WHS Regulation

(35) See linked table: [Schedule 11 of the WHS Regulation](#).

## Definitions

Term	Definition
Australian Dangerous Goods Code (ADG Code)	Comprising the Australian Code for the Transport of Dangerous Goods by Road & Rail, 7th Edition, available at <a href="http://www.ntc.gov.au">www.ntc.gov.au</a> .

Term	Definition
Bulk	Means any quantity of a hazardous chemical that is: <ul style="list-style-type: none"> <li>• in a container with a capacity exceeding 500 litres or net mass of more than 500 kilograms; or</li> <li>• if the hazardous chemical is a solid - an undivided quantity exceeding 500 kilograms.</li> </ul>
Class	The hazard class of the dangerous goods as stated in the ADG Code. A class may include divisions and the following packing groups (PG): <ul style="list-style-type: none"> <li>• PG I – great danger.</li> <li>• PG II – medium danger.</li> <li>• PG III – minor danger.</li> </ul>
<a href="#">Globally Harmonised System of Classification and Labelling of Chemicals (GHS)</a>	Used to classify and communicate chemical hazards using internationally consistent terms and information on chemical labels and safety data sheets.
Goods Too Dangerous to be Transported (GTD/TBT)	Goods listed in Appendix A of the ADG Code as goods too dangerous to be transported. These goods are inherently unstable but it may be possible to transport the goods after mixing them with diluents, stabilisers, inhibitors, desensitisers, phlegmatizers, solvents, wetting agents or adulterants to overcome the instability.
Hazardous Chemical	A substance, mixture or article that satisfies the criteria for a hazard class in the GHS as defined in the WHS Regulation. Hazardous chemicals that are subject to the WHS Regulation covers dangerous goods excluding explosives (Class 1), radioactive materials (Class 7), infectious substances (Division 6.1) and certain Class 9 miscellaneous dangerous goods.
Packaged Hazardous Chemicals	<a href="#">Schedule 11</a> hazardous chemicals in a container with either: <ul style="list-style-type: none"> <li>• a capacity not exceeding 500 litres;</li> <li>• a net mass not exceeding 500 kilograms.</li> </ul> <p>The term refers to the complete product consisting of the goods and their packaging for transport</p>
Placard/Placarding	Means a sign or notice: <ul style="list-style-type: none"> <li>• displayed or intended for display in a prominent place, or next to a container or storage area for hazardous chemicals at a workplace; and</li> <li>• that contains information about the hazardous chemical stored in the container or storage area.</li> </ul>
Practicability	With respect to control measures, practicability should be determined in consultation with the Health and Safety Representative (HSR) for the work group, local Work Health and Safety Coordinators and the Health, Safety and Wellness Division, taking into account: <ul style="list-style-type: none"> <li>• The nature of the work;</li> <li>• The severity of the potential harm to health and the degree of risk that exists;</li> <li>• The frequency of exposure to the hazard;</li> <li>• The availability and suitability of ways to prevent or mitigate the risk; and</li> <li>• Whether the cost of preventing or mitigating the risk is prohibitive in the circumstances.</li> </ul>
UQ Workers	For the purposes of this Guideline includes: <ul style="list-style-type: none"> <li>• UQ staff, including continuing, fixed-term and casual staff;</li> <li>• contractors, subcontractors and consultants;</li> <li>• students studying at UQ, including post graduate researchers and higher degree by research students;</li> <li>• visiting academics and researchers;</li> <li>• visiting research students; and</li> <li>• volunteers engaged by UQ that may be required to work with hazardous chemicals.</li> </ul>

## Status and Details

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<b>Enquiries Contact</b>	Health, Safety and Wellness Division