

# Guideline

## Dangerous Goods and Hazardous Chemicals

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## What are the risks?

Incorrect storage and handling of dangerous goods and hazardous chemicals can result in spills and incidents that pose a significant risk to the environment and human health. In particular, soil, groundwater and stormwater can all be polluted by such events.

Underground Storage Tanks (USTs) have shown to be the greatest risk to soil and groundwater at Adelaide and Parafield Airports. In addition to the impacts pollution can have on the environment, cleaning up can be expensive.

Dangerous goods and hazardous chemicals, amongst other things, include:

- Fuel (Class C1/C2 – combustible; Class 3 – flammable)
- Oils (Class C2 – combustible)
- Solvents (Class 3 – flammable)
- Paint (Class 3 – flammable)
- Adhesives (Class 3 – flammable)
- Herbicides (Class 6 – toxic)
- Pesticides (Class 6 – toxic)
- Radioactive substances (Class 7 – radioactive)
- Detergents (Class 8 – corrosive)

The information provided in this guideline is intended for tenants and contractors who store or use dangerous goods or hazardous chemicals including tenants involved in the storage of bulk fuel such as tank farms, petrol stations, and other operators with USTs.



## What are dangerous goods and hazardous chemicals?

Dangerous goods are materials that exhibit toxic, corrosive, flammable or other dangerous characteristics and are listed in the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (ADG Code).

Hazardous chemicals are those which meet the criteria of one or more *Globally Harmonised System of Classification and Labelling of Chemicals* (GHS) hazard classes.

Hazardous chemicals are regulated in South Australia by the *Work Health and Safety Act 2012*. Dangerous goods are regulated by the *Dangerous Substances Act 1979*.

Many hazardous chemicals are also dangerous goods. Dangerous goods legislation may apply to hazardous chemicals, particularly in relation to the transport and storage of some classes of chemicals.

## What are my responsibilities as a tenant or contractor?

When using and storing dangerous goods and hazardous chemicals all reasonable and practicable steps need to be taken to prevent spills and leaks. Particular attention should be paid to the following:

- Licenses
- Safety Data Sheets (SDS)
- Register
- Storage
- Labels
- Training
- Underground storage tank (UST) monitoring
- Waste disposal
- Spill response

## Licenses

Tenants may be required to notify the regulator if they sell petroleum or keep a dangerous good. SafeWork SA should be contacted for further information. The requirement for licensing is based on the quantity stored.

## Safety Data Sheets (SDS)

A SDS must be obtained for all hazardous chemicals and be readily accessible to all employees who may store or use the chemicals listed. The supplier or manufacturer is required to provide a SDS for the product. Manufacturers should update their SDS at least every 5 years. Tenants and contractors should regularly check to see they have the most up-to-date SDS.

## Register

A register of all the hazardous chemicals and dangerous goods used within the workplace must be maintained. The register along with SDS should be kept in a place that is readily accessible to all employees.

## Storage

All hazardous chemicals and dangerous goods such as solvents, fuel, hydraulic fluid, oil and other potentially hazardous liquids (including batteries) must be stored in a secure, bunded facility as per the relevant Australian Standard to prevent spills and leaks escaping into the environment and reduce the risk of fire.



Depending on the volumes stored products should be held in purpose-built cabinets/buildings, stored on bunded pallets / trays or in a bunded area that is isolated from stormwater runoff.

Products should also be stored under cover as rain will collect in the bund and reduce its capacity. The rainwater must also be disposed of as a hazardous waste by an SA EPA licensed contractor.

As a rule of thumb, the SA EPA recommends the bunded area should be large enough to hold the contents of the largest container stored inside the bund plus 20% of its volume (for flammable liquids, bund capacity should be at least 33% above the volume of the largest container).

Dangerous goods and hazardous chemicals that may react with each other need to be stored separately as per Australian Standard AS/NZS 3833:2007 (mixed storage).

## Labels

All containers holding dangerous goods or hazardous chemicals used in the workplace need to be appropriately labelled and labels must not be removed, defaced, modified or altered in any way.

Dangerous goods labels must comply with the ADG Code.

## Training

Employees must be trained in relation to the storage and use of dangerous chemicals and hazardous chemicals. Training should include the following:

- SDS – what they are, what information they contain, how and when to use them, where they are held within the workplace and how to obtain a new SDS when required
- Chemicals – how to store and use chemicals safely and the appropriate method for their disposal
- Emergency response – what personal protection is required when responding to a chemical emergency, where emergency response equipment (spill kit) is located, how to use emergency response equipment and how to dispose spent equipment
- Personal Protective Equipment (PPE) – the purpose of PPE and the requirement that employees use it when handling chemicals

Records of all induction and training in relation to these matters are required to be maintained for at least 7 years.



## Underground Storage Tank (UST) Monitoring

One of the biggest risks to soil and groundwater quality is associated with leaks from underground storage tanks (USTs). They pose a greater risk than above ground storage tanks as they can be exposed to corrosion from groundwater and visual checks are unable to identify leaks.

Given the risks associated with USTs Adelaide Airport Limited (AAL) and Parafield Airport Ltd (PAL) have prescribed requirements for the monitoring of all USTs, which must be incorporated in tenant Environmental Management Plans Monitoring must include as a minimum:

- Inventory control
- regular leak detection system checks for steel USTs (as applicable)
- regular integrity testing for all USTs
- regular cathodic protection testing for steel USTs (as applicable)
- Installation and annual monitoring of a minimum of one groundwater well for all USTs.

Monitoring/testing frequency should be in accordance with Table 9.1 of the Australian Standard for 'The storage and handling of flammable and combustible liquids' (AS1940-2017) and monitoring records are to be kept on file and made available to AAL/PAL upon request.

All tanks are required to meet the relevant Australian Standards (which are included as a conditions of Building Approvals. Building approval is required for:

- Tank installation
- Tank removal/decommissioning
- Groundwater well installation.

Tank decommissioning is to be undertaken by a suitably qualified consultant and a validation report is required to be submitted to AAL/PAL.

Pollution monitoring and cleanup is controlled under the *Airports Act 1996* and *Airports (Environment Protection) Regulations 1997*.

## Waste Disposal

Liquid hazardous waste must also be stored in a secure bunded area in appropriate containers and disposed of by an SA EPA licensed contractor. Waste Tracking Forms supplied by the licensed contractor must be kept on file.



For more information, refer to Guidelines for Hazardous Waste Management at Adelaide and Parafield Airports.

## Spill Response

All spills must be cleaned up immediately using a proper spill kit by trained employees. In an emergency contact the Airport Coordination Centre on 8154 9444.

For more information, refer to Guidelines for Spill Response at Adelaide and Parafield Airports.

## Further Information

- AS/NZS 1940:2017. The storage and handling of flammable and combustible liquids
- AS/NZS 3780:2008. The storage and handling of corrosive substances
- AS/NZS 3833:2007. The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers
- AS/NZS 4332:2004. The storage and handling of gases in cylinders
- Airports Act 1996
- Airports (Environment Protection) Regulations 1997
- Dangerous Substances Act 1979
- Dangerous Substances (Dangerous Goods Transport) Regulations 2008
- Dangerous Substances Regulations 2017
- EPA Guideline 080/16 Bunding and Spill Management
- Australian Code for the Transport of Dangerous Goods by Road & Rail (Edition 7.6, 2018)
- Work Health and Safety Act 2012
- Work Health and Safety Regulations 2012
- [www.epa.sa.gov.au](http://www.epa.sa.gov.au)
- [www.safework.sa.gov.au](http://www.safework.sa.gov.au)



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Adelaide Airport Limited  
1 James Schofield Drive  
Adelaide Airport  
South Australia 5950

T +61 8 8308 9211  
F +61 8 8308 9311  
Email: [airport@aal.com.au](mailto:airport@aal.com.au)

Parafield Airport Limited  
Building 18, Tigermoth Lane,  
Parafield Airport 5106

