



Couple of takeaways

- This procedure, forms and checklists, Safety Data Sheets (SDS), our chemical inventory software, Chemalert and inductions and training all help us to understand how to manage the risk of hazardous chemicals.
- The best way to prevent harm is to choose products that are safe for users and the environment at the purchasing phase. Products that are classified with a red colour rating in Chemalert are considered a high health hazard and require assessment and line manager approval prior to purchasing.
- Disposal requirements of hazardous substances are also to be considered during the purchasing and planning stage.
- All hazardous chemicals introduced or used at Hydro Tasmania must be registered in ChemAlert and have a current SDS.
- All hazardous chemicals must be correctly labelled, including when poured into another container (decanting).



How do we identify a hazardous chemical?

A material is classified as hazardous if it is a substance, mixture or article that satisfies the criteria for a hazard class in the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) (including a classification mentioned in schedule 6 of the WHS Regulation).

The most practical means of determining the classification of a substance is to review the safety data sheet (SDS) information for each substance. In some instances, hazardous chemicals may also be considered a Dangerous Good for transport under the Australian Dangerous Goods (ADG) Code.



What are the key principles of safe chemical management?

Chemical management is based on ensuring the key principles of identifying the hazards and addressing the risks is undertaken at each stage of a products lifecycle. This lifecycle refers to the various steps a substance goes through from creation through to disposal. At Hydro Tasmania, this lifecycle will usually involve the stages of Purchase, Storage, Use, Transport and Disposal.

Identifying the hazards

We assess the hazards by using the information provided in the following locations:

- Safety Data Sheets (SDS) available through ChemAlert or directly from manufacturers and suppliers
- Product labels, signage and placarding complying with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)



What is this procedure for?

This procedure describes the requirements for the safe and environmentally responsible management of hazardous chemicals in a manner that complies with legislation. This includes commercially produced hazardous chemicals.

The WHS Intranet Page on Chemical Management provides resources to other valuable information on hazardous substances and materials in the workplace such as asbestos, silica, dust, lead, SF6 and environmental management topics.

Controlling the risk

Once the hazards and risks relating to a chemical are known, the Hierarchy of Control is used to identify measures that may be implemented to reduce risks related to the work. We need to implement the strongest controls, before considering the least reliable. Not purchasing a highly toxic chemical (elimination) is way more effective in preventing harm than introducing a procedure and using gloves to handle that chemical.

- **Eliminate** the need to use a hazardous chemical by changing the work process or design. For example, use mechanical fasteners instead of adhesives.
- **Substitute** a substance or chemical for a less hazardous product.
- **Isolate** to separate people from the hazard, such as barriers, bunding and enclosed systems for chemical handling.
- **Engineer** the workplace by adding fume hoods or extra ventilation to reduce fume exposure or considering the products that will be needed for future maintenance etc. at the design phase.
- **Administer** the remaining risk with procedures, checklists and forms.
- **Personal Protective Equipment (PPE)**, such as using Respiratory Protective Equipment (RPE) and chemical resistant gloves.

What resources are available to help me?

For information on how to control a hazard relating to chemical management, the first place to look is the WHS intranet page. The resources available on this page include:

- This procedure – your first stop to understand the overarching process.
- Forms and checklists – for each stage in the lifecycle of a chemical. They have been designed to assist in risk assessing and providing guidance.

- Guidelines – the guideline provide extra information about storage and handling requirements.
- ChemAlert – this is a subscription service that Hydro Tasmania group uses to store SDS, maintain hazardous chemical registers, conduct risk assessments and more.
- Training – there is a Hydro specific awareness e-learn and specific training for certain chemicals and substances outlined in the WHS training matrix.

How do we control chemical hazards?

Each stage in the lifecycle of a hazardous chemical requires that the principles of identifying the hazards and controlling the risks are applied. These principles vary in how they are applied in practice at each stage:

Purchase

Purchasing commercially manufactured hazardous chemicals from a supplier:

- a. Assess the product being purchased to ensure it is the safest product for the task, taking into consideration all stages in the lifecycle of the product.
- b. Check with **Supply & Inventory** to confirm whether the chemical is in stock at any stores locations to avoid ordering surplus.
- c. Review the disposal requirements associated with the chemical and plan/budget accordingly for disposal at end of life.
- d. Confirm the hazardous chemical product is in the ChemAlert stock registry and has had a risk assessment and line manager approval completed if the product is colour rated as red under the ChemAlert Colour rating System. Non-hazardous chemicals do not require input into ChemAlert, however they may still be added.

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- e. If a chemical to be purchased is hazardous and not found in the ChemAlert stock registry, or a risk assessment has not previously been completed for a product (red colour rating only), the **purchaser** must ensure the product is added to the ChemAlert stock registry and risk assessed, where required (red colour rating only), prior to purchase.

The *Chemical and Hazardous Substance Purchasing Checklist* can be used to assist in assessing products and determining whether to purchase a chemical or not.

Line Manager approvals can be completed on the *Line Manager Chemical Approval Form* and saved in ChemAlert.

Chemicals brought onsite by a contractor:

- a. The contractor must provide a hazardous chemical register to the **Hydro Tasmania site contact** and ensure all relevant SDS are accessible at the worksite. All SDS must be compliant and current (issued within the last 5 years).
- b. Where hazardous chemicals are to be stored on a Hydro Tasmania group site, the register and SDS must be readily available to all workers likely to be in contact or affected by those chemicals. This may include incorporating the items into Hydro Tasmania's register in ChemAlert.
- c. **The contractor** must provide documentation to the **site contact** showing they have identified, assessed, and developed controls for any hazardous chemicals they will use in Hydro Tasmania workplaces.
- d. **The contractor** must remove chemicals brought onsite following completion of work and ensure they are disposed of appropriately where required.

Storage, signage and placarding

When storing hazardous chemicals, the following requirements are to be in place:

- a. Packages and containers are to be properly closed and securely stored to prevent spills and contamination.
- b. Items are to be segregated from incompatible materials and substances and, where provided, stored in designated chemical storage cabinets or bunded areas.
- c. Cabinets and containers are to be correctly labelled with appropriate signage and placarding.
- d. Spill control measures, including bunding and spill trays are to be in place when storing, using and handling.
- e. Storage locations must have appropriate ventilation.
- f. Emergency response equipment, including spill kits and fire extinguishers must be nearby and ready.

Hazardous chemical signs and placarding

- a. The use of signs and placarding is part of the overall management of the hazardous chemicals store and is intended to:
 - i. alert people to the presence of hazardous chemicals
 - ii. identify the categories of hazardous chemicals stored, and
 - iii. indicate required emergency actions and contacts
- b. Signs and placarding for stores of hazardous chemicals will comply with the requirements of the WHS Regulation 2011 - Schedule 13, and the GHS and follow the requirements of AS 1319 Safety signs for the occupational environment requirements.

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Site leaders are responsible for ensuring that storage locations and facilities are:

- a. Effectively maintained in accordance with this procedure and guidance material
- b. Signage and placarding is in place and in good condition
- c. Annual inspection of storage locations using the Chemical Storage Checklist are completed.

For further information on storage, placarding and managing chemical risks refer to *Hazardous Chemicals: Storage, Maintenance & Management Guideline* and the *Chemical Storage Checklist*.

Handling and Use

Planning and Risk Assessments

It is a requirement to identify hazards and control risks in all work that we do and for hazardous chemicals this is no different.

- a. The ChemAlert Colour Rating System is used to classify the health hazard of chemicals as either Low (**Green**), Moderate (**Amber**) or High (**Red**). Chemicals with High Health Hazard classification (**Red**) must have a risk assessment attached in ChemAlert and be approved by a line manager.
- b. Risk Assessments for Low and Moderate health hazard chemicals should be via a pre-use assessment (Take 5 or similar) and do not require formal approval.
- c. Prior to using the hazardous chemical, **the user** must identify the risks including:
 - i. Does the chemical have health hazards?
 - ii. Does the hazardous chemical have physical hazards?

- iii. Does the hazardous chemical have an exposure standard?
- iv. Do workers using the hazardous chemical require health monitoring?
- v. Are workers, or can workers be potentially, exposed to hazardous chemicals at the workplace, including by-products and waste?

The *Chemical Pre-Use / Planning Checklist* can be used to assist in the identification of chemical hazards prior to use.

Line Manager approvals can be completed on the *Line Manager Chemical Approval Form* and saved in ChemAlert.

Personal Protective Equipment (PPE)

- a. PPE must be worn when using or handling hazardous chemicals as required by the SDS.
- b. The SDS provides information on the personal protective equipment required for handling and use, however the activity risk assessment (Take 5, SWMS) should also consider other hazards involved in the activity to determine the appropriate PPE required.
- c. PPE must be used, maintained and stored in accordance with the manufacturer's requirements.

Labelling hazardous chemicals:

- a. All hazardous chemicals in any container must be identified by a label. The hazardous chemical label must include information on the hazards, plus instructions and information on the safe storage, handling, use and disposal of the chemical.
- b. Where a label is in poor condition or unable to be read, they must be immediately replaced.
- c. Labels for Hazardous Chemicals can be printed from ChemAlert.

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- d. Single use containers, such as paint pots or beakers, where the chemical is to be used immediately are exempted from having a label if the container is cleaned of residue after use.

Decanting

- a. If decanting, it will be done in accordance with any specified SDS instruction. This includes wearing any specific personal protective equipment (PPE) where it is called for.
- b. Decanting is to be done in such a manner to reduce possibility of spillage (e.g. containment trays under paints or oil drums) or exposure to ignition sources (e.g. naked flame, pilot lights, static electricity).
- c. The following containers must not be used in Hydro Tasmania workplaces:
 - i. Unlabelled containers, except for those chemicals used immediately
 - ii. Containers that have previously held another product (including food); and
 - iii. Damaged containers.
- d. Labels for decanted chemicals can be printed from ChemAlert.

Exposure monitoring

- a. Exposure standards are based on the airborne concentrations of individual substances that, according to current knowledge, should neither impair the health of, nor cause undue discomfort to, nearly all workers. Where a risk of airborne contaminants is identified, monitoring of workplace contaminant levels for chemicals with exposure standards may need to be carried out.
- b. Further information on exposure standards can be found on the Safe Work Australia (SWA) website and the SWA Hazardous Substances Information System (HSIS)

- c. Exposure monitoring will be performed by suitably qualified and competent occupational hygienists.

Health Monitoring

- a. Hydro Tasmania will implement a program to monitor the personal health of employees who are identified as requiring health monitoring due to the handling of certain hazardous chemicals or being involved in activities that are known to cause negative health effects.



How do we transport hazardous chemicals?

Transporting bulk hazardous chemicals by road

- a. The transport of hazardous chemicals by road is governed by the Dangerous Goods (Road and Rail) Act and Regulations with specific requirements outlined in the Australian Dangerous Goods Code. The Dangerous Goods Transport Assessment Tool is provided to help navigate these different requirements.
- b. Where a vehicle is used to transport dangerous goods, both the operator and the vehicle must be licensed by WorkSafe Tasmania if the capacity of the containers being transported:
 - i. exceed 500 litres or kilograms for a container
 - ii. exceed 3000 litres for a single IBC (Intermediate Bulk Container) or total capacity of IBCs, not filled or emptied on the vehicle
 - iii. are a Risk Category 3 load for Class 1 (explosives).
- c. Where the quantity of dangerous goods being transported is considered a Placard Load, a number of requirements exist, including licensing, placarding, transport documentation and emergency response plans.

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- d. **The Manager of Fleet** is responsible for maintaining records of Dangerous Goods vehicle licensing.

The *Dangerous Goods Transport Assessment Tool* and the *Chemical Transport Checklist* will assist in identifying transport requirements for controlled waste and dangerous goods.

Transport of dangerous goods at less than placard loads

- a. Dangerous goods transported in quantities of less than placard loads can be categorised as: exempt, tools of trade, less than placard load and limited quantities.
- b. The Dangerous Goods Transport Assessment Tool will assist with identifying loads that are exempt, tools of trade, less than placard and placard and their requirements.
- c. Hydro Tasmania group will not transport under limited quantities rules unless through a licenced transport organisation.

Transport of controlled waste

- a. Controlled waste is a category of waste that the Environment Protection Authority (EPA) has identified as being hazardous to the environment or human health and enforces strict requirements around handling, disposal and transport.
- b. Transportation of substances regarded as Controlled Waste is managed under the Waste Management Procedure.
- c. Vehicles and businesses transporting controlled waste require registration with the EPA.
- d. **The Manager of Fleet** is responsible for maintaining records of controlled waste vehicle registrations.

- e. Contact the environment team for further advice via: environment@hydro.com.au



How do we dispose of chemicals?

Disposal of hazardous Chemicals

- a. Hazardous chemicals will be disposed of in accordance with the SDS. All due care for the environment will be considered when disposing of hazardous chemicals.
- b. Where a contractor is engaged for the disposal of chemicals ensure you are able to provide:
 - i. Brand Name
 - ii. Manufacturer
 - iii. Chemical Name
 - iv. Number of Containers
 - v. Container Size
 - vi. Container Type
 - vii. Physical State (i.e. Liquid, Solid, Sludge)
 - viii. DG Class
- c. Refer to the Waste Management procedure for further information
- d. Where disposal requirements are unknown, or the chemical is unknown, contact the environment team for further advice via: environment@hydro.com.au

When do we need registers, manifests and Safety Data Sheets (SDS)?

Hazardous chemical registers

A hazardous chemical register must be maintained for each site. **Site leaders** are responsible for ensuring that the registers are reviewed and maintained to be kept current.

Hydro Tasmania group uses the ChemAlert stock registry to maintain a list of all hazardous chemicals handled, stored, used, or generated at the workplace regardless of their size and quantities. It also includes the current SDS for each hazardous chemical, maximum storage quantities and risk assessments for chemicals colour rated as red via the ChemAlert Colour Rating system.

Consumer products and non-hazardous chemicals are not required to be listed in the hazardous chemical register, however there is no harm in doing so.

Hazardous chemical manifest

A hazardous chemical manifest is different from a register. It contains information on the quantity and location of certain chemicals stored in bulk, in addition to site plans and emergency contact details. It is designed to primarily assist emergency services in the event of an incident.

A hazardous chemical manifest is only required where the quantities of those hazardous chemicals exceed prescribed threshold amounts referred to in the WHS Regulation 2011 - Schedule 11, and must be developed according to the requirements of the WHS Regulation 2011 - Schedule 12.

Sites with an active manifest must notify WorkSafe and the WHS Team where there is any change in capacity of the manifest quantity or a change in the risk profile related to the chemical storage.

Manifests are stored in the Asset Information Library and are available through the WHS intranet page.

Safety Data Sheets

The current SDS (issued within the last 5 years) must be readily accessible to workers involved in using, handling or storing the hazardous chemical at the workplace and emergency service workers, or anyone else who is likely to be exposed to the hazardous chemical. This may be an electronic version via ChemAlert, as long as the requirements for accessibility can be met.

What training is required?

Hazardous chemical information, training, and instruction

- a. Hazardous chemical information, training and instruction is conducted in accordance with the WHS Training, Awareness and Competency procedure.
- b. Workers who are required to select, purchase, decant, use, dispose of, store or transport hazardous chemicals will receive general awareness training in chemical management.
- c. Each Operational area, business unit or project should have at least one person competent in the use and maintenance of the ChemAlert database.

How do we manage chemical emergencies and spills?

- a. Hazardous chemical emergency and spill management will be conducted in accordance with the Incident Management Plans, Site Incident Response Plans and Incident Management Procedure.
- b. This includes response and associated environmental management, decontamination, investigations and reporting, corrective and preventative actions, management review and health monitoring after exposure to hazardous chemicals.

The **Senior Manager Environment** is to be contacted for advice and notification of spillage of any hazardous chemical, and post spill compliance management and regulatory reporting.