Hazardous Substances Management

HSEQ Operational Procedure

What this procedure describes

How to manage hazardous substances by providing guidance on the procurement, use, storage, transport and disposal procedures for hazardous chemicals, dangerous goods and associated wastes.

Why it is required

- To assist you to manage the risk associated with working with hazardous substances (hazardous chemicals and dangerous goods).
- TasNetworks is required to manage the risks associated with hazardous substances in accordance with relevant health, safety and environmental legislation and codes of Practice, including Workplace Standards CP120: Managing the Risks of Hazardous Chemicals in the Workplace.
- The procedure supports the TasNetworks goal of Zero Harm.

Who it applies to and when

This procedure applies to everyone working for or on behalf of TasNetworks.

Authorisation	
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Authorised by	GM Works and Service Delivery
Review Cycle	3 years

Revision History	
Date	**Revision Details**
28/03/2014	Original Issue
22/03/2016	Transferred to TasNetworks style
1/12/2016	Reviewed and updated
25/01/2017	Added hyperlink to SF6 Procedure

Contents

1. What is a hazardous substance?

For the purpose of this procedure, a hazardous substance may be a dangerous good and/or a hazardous chemical. Dangerous goods and hazardous chemicals are classified according to different criteria:

Dangerous goods are classified on the basis of immediate physical or chemical effects, such as fire, explosion, corrosion and poisoning, affecting property, the environment or people.

Hazardous chemicals are classified on a set of inherent properties of the goods or chemicals that may cause adverse effects on people, organisms or the environment. There are two broad types of hazardous chemicals which may present an immediate or long term risk of illness or injury to people. These are:

- **Health hazards** – risk of illness - the chemical has the potential to cause adverse health effects. The effects may be either: acute (short term) effects such as headaches, nausea, vomiting and/or skin corrosion; or chronic (long term) effects including asthma, dermatitis, nerve damage or cancer. Exposure usually occurs through inhalation, skin contact or ingestion.
- **Physicochemical hazards** – risk of injury - chemicals that have the potential to pose risks through inappropriate handling or use. Examples include: flammable, corrosive, explosive, chemically reactive and oxidising chemicals. This includes most dangerous goods.

Many hazardous substances have both health and physicochemical hazards.

All hazardous chemicals and dangerous goods that are stored, handled or used at the workplace must be listed on a register. Refer to Section 2.1 Chemical Register 2.1 for more details.

2. Hazardous substances used by TasNetworks

2.1 Chemical register

It is important to know exactly what hazardous substances are being purchased, used and/or stored at each TasNetworks site to ensure they are appropriately managed.

A chemical register is a list of hazardous chemicals and dangerous goods used, handled or stored at the workplace, accompanied by the current safety data sheet (SDS) for each of those chemicals.The chemical register must be readily accessible to all workers and kept up to date at all times.

TasNeworks chemical register is an approved list of chemicals that can be used on TasNetworks work sites (including chemicals used by contractors and subcontractors). The register is hosted electronically by Chemwatch. The application is called GoldFFX and can be accessed via the following link:

http://jr.chemwatch.net/chemwatch.web/home

Everyone Login
Account ID: Tasnetworks
Username: Everyone
Password: euhVbvA

Alternatively you can access Chemwatch through HSEQ page on the Zone. Once you have accessed the Chemical Register a SDS can be downloaded or printed from the site.To add a chemical to the register, refer to Section 3, procurement of a new hazardous substance.

2.2 Safety data sheets (SDS)

The SDS provides essential information on the chemical, including its composition, the associated hazards, the PPE required to handle the chemical and emergency response requirements. The SDS contains all the information required to determine storage, packaging and transport requirements, and to populate the chemical register.

The SDS must:

- be less than 5 years old; and
- be readily accessible to all workers at all times, as well as to emergency services personnel.

Hard copies of the register and applicable SDSs must be kept at the fire indicator panel for emergency services personnel and may also be stored in locations where chemicals are regularly stored and used.

If the SDS for a chemical is not supplied, you must contact the manufacturer, importer or supplier to obtain one before it is used at the workplace.

2.3 Classification and labelling of hazardous chemicals

The Globally Harmonsied System (GHS) is now used to classify and communicate chemical hazards using internationally consistent terms and information on chemical labels and SDSs. There are 9 hazard pictograms in the GHS representing the physical, health and environmental hazards. Refer to Appendix A: Classification and Labelling for Workplace Hazardous Chemicals.

The GHS uses ‘Danger’ and ‘Warning’ as signal words to indicate the relative level of severity of a hazard. ‘Danger’ is used for the more severe or a significant hazard, while ‘Warning’ is used for less severe hazards. Refer to Appendix A: Classification and Labelling for Workplace Hazardous Chemicals.

Appendix B: Comparison of GHS Hazard Pictograms with ADG Code Class Lables provides a comparison of the new GHS hazard pictograms with Australian Dangerous Goods Code class labels.

3. Procurement of a new hazardous substance

Prior to the introduction or purchase of any new hazardous substance (one not already listed on the TasNetworks chemical register), a risk assessment must be performed in accordance with Appendix C: Hazardous Substance Purchase Checklist to ensure all the risks associated with the proposed chemical or substance are assessed. Any new hazardous substance must

be approved by the HSE Team prior to being added to the Chemical Register. Refer to Section 2.1.

Where workers will be potentially exposed to significant quantities of hazardous chemicals, consultation with the workforce, Health and Safety Representatives (HSR), and obtaining advice from the HSE Team as per the TasNetworks HSEQ Consultation and Communication Procedure is required.

4. Using hazardous substances

4.1 Risk assessment

A risk assessment shall be completed for all work involving potential exposure to hazardous substances. Users must assess risks and implement control measures in conjunction with the SDS. Guidance for conducting the risk assessment is provided in the TasNetworks HSEQ Risk Management procedure.

The risk assessments may be in the form of job risk assessment (JRA), safe work method statement (SWMS) or work practices.

It is important to assess both the health and physicochemical risk and identify the need for health monitoring.

Health Risks - need to consider:

- **Routes of entry** by which the chemicals can affect your health - inhalation, ingestion and/or skin contact;
- The **physical form and concentration** of the substance - changing form and/or concentration may change the substance from virtually harmless to hazardous;
- **Who** could be exposed, including visitors and cleaners, etc.;
- **When** exposure may occur - consider working in the vicinity of it and/or disturbing it; or coming into contact with contaminated sites or surfaces;
- **How** often is exposure likely to occur and for how long;
- **What** is estimated exposure to hazardous chemicals - air monitoring may be required; and

Comply with exposure standards which 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 workers.

> ***WHS Regulations 2012*: R.49**
> A person conducting a business or undertaking (PCBU) must ensure that no person in the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the relevant exposure standard for the substance or mixture.

For more information on exposure standards, refer to Safe Work Australia's Workplace Exposure Standards for Airborne Contaminants and Guidance on the interpretation of Workplace Exposure Standards for Airborne Contaminants.

Physicochemical Risks – need to consider:

- **Fire and explosion** – identify the source of possible fuels (e.g. a flammable or combustible substance), source of oxygen (usually the air) and possible ignition

sources including flames (e.g. welding flames, pilot lights); sparks (e.g. friction from drilling and grinding, lightening) and heat (e.g. heaters, vehicle engines, generators);
- **Corrosive substances**;
- **Compressed and liquefied gases** including sulphur hexafluoride (SF6); and
- **Asphyxiation hazards** – all gases are asphyxiation hazards.

Risk controls shall be applied in the following order:

a. **Eliminate** – the complete removal of the substance;
b. **Substitute** – replacing the substance with a less hazardous one;
c. **Isolate** – separation from the substance by guarding or enclosing it;
d. **Engineer** – redesign the equipment or work processes to reduce handling of the substance;
e. **Administrative** – providing controls such as training and procedures; and/or
f. **Personal protective equipment** – use appropriate and properly fitted PPE, refer to Section 4.3 Personal protective equipment.

Specific emergency response equipment may be required to respond to an emergency. Consideration of the equipment required to: respond, contain and clean up spills must be included in the risk assessment. Refer to Section 4.4 Emergency Response Equipement.

For handling asbestos refer to the Asbestos Management Plan.

For handling insulating oil refer to the Management of Insulating Oil Procedure.

Workers handling chemicals should be:

- Aware of the basic spill response requirements for the chemical being used; and
- Competent in the use of the spill management equipment.

4.2 Hazardous substances contained within assets

Workers may come into contact with specific hazardous substances or dangerous goods contained in assets or the environment. These include:

Hazardous substance	Location
Asbestos	Some cement sheeting, mains, fittings and coatings [refer to the Asbestos Management Plan.
Boron, Flourine	Preschem pole saver rods a preservative treatment for wooden poles.
Copper chrome arsenic (CCA)	Preservative treatment of wooden poles.
Creosote preservative	Preservative treatment on wooden poles.
Gun powder	Ampact gun charges, small chemical propellant charge in a powder-actuated tool used in construction to join materials to hard substrates such as steel and concrete.

Hazardous substance	Location
Herbicides such as Grazon, Roundup.	Used for the management of vegetation.
Lead	Inorganic lead or lead compounds may be found in: • underground cables (lead paper cables) as lead sheath around the core; • Cambric cables (red lead cables) as orange cloth outer wrapping (lead oxide impregnation) and a copper core; • lead seals on electricity meters; zone sub-station battery terminals (lead); • lead flashing for waterproofing on asbestos sheet roofed zone substations; and • lead paint on buildings.
Polychlorinated biphenyls (PCBs)	Some transformers, capacitors and contaminated soils [refer to Oil Management Procedure.
Potassium hydroxide, ammonium chloride or zinc chloride	Acidic and Alkaline Batteries

4.3 Personal protective equipment

At TasNetworks, minimum personal protective equipment (PPE) requirements are non-negotiable, workers must follow the practices described in the TasNetworks Personal Protective Equipment Procedure. PPE must NOT be used as a substitute for engineering, work practice, and/or administrative controls. PPE may be used in conjunction with these controls.

A review of the SDS and risk assessment will determine if additional PPE is required when handling hazardous substances, for example all workers handling or removing asbestos must be trained and issued with appropriate PPE such as P2 masks, disposable coveralls, etc. This PPE will be available from the TasNetworks stores.

4.4 Contractors using herbicides and pesticides

Any business that provides a commercial spraying service to TasNetworks, must hold a Commercial Operator Licence. The licence applies to any business that uses herbicides or pesticides to control insect pests and diseases, weeds, rodents, birds etc. for fee or reward. Examples where a Commercial Operator Licence is required include:

- spraying of easements,
- spraying of switchyards/substations,

- cutting and pasting vegetation in easements,
- roadside weed spraying,
- insect, disease or weed control in lawns and gardens, and
- insect and rodent control in and around buildings.

The only exception to this requirement is where the contractor only uses a "small amount" of chemical product and this use is incidental to the main purpose of the contractor (eg lawn mowing and garden maintenance). You would be considered to use a small amount, if you only use products that are registered, labelled and packaged for home garden use. Generally, home garden products are limited to small packs of low-toxicity products eg. 1 litre packs of glyphosate or 500 ml packs of pyrethrum insecticide. They are labelled and packaged especially for the home garden and are available from nurseries and gardening/hardware stores

In addition to holding the Commercial Operator Licence, the contractor must:

- only use chemicals that have been approved by TasNetworks (ie. is listed on the TasNetworks Chemical Register);
- only use chemicals in accordance with the label;
- ensure that use of any herbicide use on properties subject to any specific management plans is done in accordance with the relevant management plans. The Contractor is responsible for determining where such management plans exist;
- ensure that Contractor's personnel who apply herbicides/pesticides have a Tasmanian Certificate of Competency appropriate for the chemical products being applied and the mode of application as issued by the Registrar of Chemical Products within DPIPWE;
- record all instances of herbicide use; and
- ensure that the Contractor's personnel have been provided with and wear the personal protective equipment specified on the label or Safety Data Sheet (SDS).

5. Storing hazardous substances

5.1 Storage requirements

Storage arrangements are to be appropriate for the types and amounts of substances being stored.

All products should be packaged and labelled so that quick identification of the product can be made. New products shall be inspected to ensure appropriate packaging and correct labelling. Labelling should contain:

- Product name;
- Name, address and phone number of Australian manufacturer or importer;
- Information relating to its ingredients;
- Relevant health and safety information; and
- Any hazard warnings.

All hazardous substances shall be retained in their original packaging. Where practicable or where necessary, hazardous substances may be decanted or removed into an appropriate container only as recommended by the manufacturer and clearly labelled.

A product decanted into another container shall be labelled with the brand name or trade name of the product along with any health and safety information. Labels, which meet these requirements, can be printed direct from ChemWatch. A container into which a product has been decanted need not be labelled if the product will be used immediately and the container cleaned immediately after use.

All hazardous substances shall be clearly and durably labelled to ensure proper identification and safe handling information as per legislative requirements.

Dangerous goods of different classes must be stored in different flammable goods cabinets.Refer to Appendix D: Dangerous Goods Segregation Chart, for more information.

Chemicals shall be stored in areas with appropriate spill containment (e.g. bunded store cupboards, bunded storage buildings).

Suitablility of storage requirements can be assessed using Appendix F : Storage and Transport of Hazardous Chemicals Checklist.

5.2 Controlled access

All reasonable precautions (fencing, locked areas, alarms, etc.) are to be taken to prevent:

- An accident by fire, explosion, corrosion, or poisoning; and
- Access by an unauthorised person to the chemicals and/or loss of containment for any reason.

5.3 Placarding

Placarding is primarily provided to alert emergency service personnel to the presence of stored dangerous goods. Placarding displays information about the type of dangerous goods stored and the appropriate early actions required in the event of an emergency.

Placarding is required at storage locations wherever dangerous goods are stored in quantities greater than the Placarding Quantity, refer to Appendix E: Placard and Manifest Quantities Table.

The table shows placard and manifest quantities of hazardous chemicals, as specified in the WHS Regulations (Schedule 11). The final column of this table shows the link between the *Globally Harmonised System for the classification of Labelling of Chemicals* (GHS) classes and categories and the equivalent classes and categories of dangerous goods under the Australian Dangerous Goods Code.

TasNetworks does not have any Major Hazard Facilities or Manifest Quantity Workplaces.

Note: Where the WHS Regulations (Schedule 13) require a placard, the relevant dangerous goods class label (pictogram) must be displayed on the placard, rather than the corresponding GHS pictogram.

5.4 Emergency response and spill management

5.4.1 Site emergency response plans

Site plans (drawings) shall be maintained for each site:

- An overall general plan (or plans) for each site shall be developed. This plan shall show: storage areas and volumes of substances held in bulk, flammable cabinets, tanks, loading and filling stations, pumps, pipelines, fire hydrants, electrical installations, roads, and buildings on the site.
- A drainage map of the site showing: the land contours, any nearby water bodies, and all storm water controls. If land contours are not available, an indication should be made showing which area is served by which drain. This information is critical in times of chemical spills or fires.

Note: These sets of drawings are required for inclusion in the Site Emergency Response Plan for the site. They are to be updated as required when changes are made to storage areas. They must be stored where they are accessible to emergency service personnel.

5.4.2 Emergency response equipment

The type of emergency equipment required to: respond to an emergency, contain, and clean up spills is dependent upon the type and quantities of hazardous substances on the site. The emergency equipment must be located so it is readily accessible to all workers if an emergency arises. The emergency equipment should be compatible with the hazardous substance they may come into contact with, for example water fire extinguishers are not suitable for oil fires. Refer also to the TasNetworks Site Emergency Planning Procedure.

Examples of emergency equipment that may be required include:

- Bunds for containing leaking containers or equipment;
- Absorbent materials such as absorbent pads suitable for chemicals likely to be spilled;
- Fire extinguishers;
- Neutralising agents such as lime and soda ash;
- First aid kits;
- Emergency showers and eye wash stations; and
- Appropriate tools and PPE for personnel involved in the clean up.

Spill containment is used whenever chemicals are transferred, decanted or in use.

The spill containment method used must be:

- Suitable for the chemical type, including potential reactions; and
- Able to contain the total volume of the chemicals

Spill controls, including spill kits, shall be routinely checked and maintained in good working condition.

For fires, explosions and violent reactions refer to the Site Emergency Response Plan.

For oil spills refer to the Control and Clean Up Oil Spills Work Practice.

For all other spills:

- Keep away until positively identified;
- Avoid all contact with material;
- Avoid breathing gas, fumes, mist or dust;
- Warn nearby persons;
- Keep all ignitions sources away;
- Obtain spill response information and follow instructions from the SDS, Labels and Placards;
- Stop leakage if safe to do so; and
- Use spill kit and prevent spillage from entering drains. If the spillage enters the stormwater system attempt to block off the stormwater outlet before it enters the surrounding environment. Refer to the Site Emergency Response Plan to identify location of stormwater outlet.

6. Transporting hazardous substances

All hazardous substances shall be transported in accordance with the requirements set out in the product's SDS.

All dangerous goods transported under the control of TasNetworks shall be:

- packaged, labelled and loaded in accordance with the relevant dangerous goods regulations and the *Australian Dangerous Goods Code*; and
- transported under appropriate licence.

There are additional requirements for transporting controlled waste, refer to Section 7. Disposal of Hazardous Substances.

7. Disposal of hazardous substances

The disposal of a hazardous substance shall be undertaken in accordance with the SDS and relevant legislation. Hazardous substances may be controlled wastes [e.g. asbestos and waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs)], and must be transported and disposed in accordance with the relevant legislation and the TasNetworks Waste Management Procedure.

Disposal shall be through an approved waste disposal contractor or facility and records of the product disposal and associated waste are to be maintained in accordance with Section 11 Records.

Further information (applicable to the substance) may be obtained from the HSE Team, the manufacturer/supplier or the local trade waste authority.

7.1 Monitoring

Monitoring is carried out in situations where workers are exposed to significant quantities of hazardous chemicals. This is done to ensure control measures are operating effectively and providing an appropriate level of control.

Specific responsibilities for monitoring and reviewing arrangements are covered in the responsibilities section of this procedure.

7.1.1 Health Surveillance

If any chemicals listed in Schedule 14 of the WHS Regulations (2012) are identified, health monitoring requirements will be identified during the risk assessment, as per Section Risk Assessment.

For more information, contact the HSE Team.

7.2 Reviewing control measures

When planning a task that involves a hazardous substance, identify whether a risk assessment has been done for the specific task and substance. If a previous risk assessment exists, review the risk assessment and incorporate the control measures in your work. The review should consider whether the existing risk assessment was thorough enough.

Control measures may be reviewed after consultation with workers and HSRs. This is done by considering information such as risk assessments, data on near-hits, incidents and incident investigation. Assessment of whether the precautions noted in the SDS are adequate must be noted on the risk assessment.

When reviewing the control measures, consultation with the workforce impacted by the change must occur.

8. Incidents

All incidents involving hazardous substances, including near misses, shall be reported in accordance with the TasNetworks Incident Management Procedure.

9. Training

Online hazardous substance awareness training is compulsory for all employees who work with or are exposed to hazardous substances. The training will include information about the: hazardous substances SDS, emergency information, handling, labelling, disposal, PPE use, and care and maintenance.

ChemWatch training is available to people responsible for maintaining the hazardous substances registers.

Additional training requirements will be identified during: risk assessments, the annual inventory review, and when procuring new substances. Detailed hazardous substance training may be required for: operations, maintenance, and emergency response roles

involving hazardous materials. Use should be made of supplier expertise to provide this training with an annual refresher course, if required.

9.1 Annual inventory

Identification of the substances must occur annually for each site to ensure that:

- the hazardous substances register is up to date;
- the product is still required;
- the risks associated with each substance are appropriately controlled;
- current stock levels are appropriate;
- substances are stored appropriately; and
- any storage incompatibilities are addressed.

Remove any hazardous chemicals no longer needed from stock using a licenced waste removalist and remove from the Chemical Register.

10. Audits

Implementation of this procedure shall be audited as a Teir 2 audit in accordance with the TasNetworks HSEQ Auditing Management System Procedure. Site audits should include the: risk assessment, approval, safe use, handling, storage, transport, and disposal for hazardous chemicals, dangerous goods and associated wastes. Refer to Appendix F Hazardous Substances Audit Template.

11. Records

Records that must be maintained include:

- Audit reports;
- Risk assessments for using hazardous substances;
- Risk assessments for purchasing new hazardous substances;
- Monitoring and health surveillance records where required; and
- Training records;

Records must be maintained in accordance with the TasNetworks Documentation and Records Management Procedure.

12. Responsibilities

12.1 TasNetworks

Businesses have duties to manage the risk associated with hazardous substances under the *Work Health and Safety Act 2012* (WHS Act) and the *Environmental Management and Pollution Control Act 1994*.

12.2 The TasNetworks Board and General Managers

'Officers' under the WHS Act include directors and secretaries. Officers must exercise *due diligence* to ensure that TasNetworks manages risks associated with hazardous substances. This involves ensuring TasNetworks has and uses appropriate resources and processes to eliminate or minimise risks that arise from hazardous substances at the workplace.

12.3 Health, Safety and Environment Leader

- Maintain a register and manifest (where relevant) of hazardous substances;
- Communicate exposure standards where necessary;
- Communicate changes to work health, safety and environment legislation regarding hazardous substances, review and revise hazardous substances related documentation, including this procedure;
- Provide notification to the regulator of manifest quantities, if required;
- Maintain site emergency plans that include storage location and volumes of hazardous substances. Provide copies of the plans to the Chief Wardens and ensure the plans are accessible to emergency service personnel;
- Provide information, training and instruction to workers;
- Perform audits to ensure the implementation of this procedure;
- Provide advice and assistance regarding this procedure, hazardous substances and propose less hazardous alternatives where suitable; and
- Provide health monitoring to workers where required.

12.4 Facilities Team Leader

- Maintain hard copies of the Chemical Register and applicable SDS at the fire indicator panel for emergency services personnel;
- Preparation and maintenance of site plans to be included in each Response Centre and Depots Site Emergency Response Plan; and
- Provide fire protection systems, fire fighting equipment and emergency and safety equipment including eyewash stations.

12.5 People Direct Team Leader

- Maintain health monitoring results in the TasNetworks document management system and providing them to the worker.

12.6 Team Leaders and Supervisors

- Appropriately assess whether new hazardous substances are requested as per Section 3. Procurement of a new hazardous substance.
- Ensure workers are appropriately informed, trained and supervised in the use of hazardous substances;
- Ensure workers handle, transport and dispose of substances appropriately;
- Ensure that exposure standards are not exceeded;
- Provide spill containment systems for hazardous chemicals, if necessary;
- Ensure that current Safety Data Sheet (SDS) are available to workers.

Refer to the following table to determine who is responsible to: ensure that the chemical register is maintained at each site; substances are assessed and reviewed annually; SDSs are current; site plans are maintained; and site plans are available to the site Chief Warden for inclusion in emergency response planning.

Site	Responsibility
Resource Centres including: Cambridge, Rocherlea, Devonport and Burnie (including oil facilities)	Regional Team Leaders
Resource Centres – stores and warehouse	Inventory Team Leader
Depots including: Campbell Town, Deloraine , Huonville, New Norfolk, Queenstown, Scottsdale, Smithton, St Marys	Team Leaders
Mornington training centre	HSE and Tech Competence GroupLeader
Resource Centres – offices Maria Street - offices Data Cetres Trevallyn and Chapel Street Substation	Facilities Team Leader

12.7 Workers (including staff at all levels, contractors and subcontractors)

- Workers have a duty to take reasonable care of their own health and safety and must cooperate with any reasonable policy or procedure relating to hazardous substances at the workplace;
- Read the Safety Data Sheet (SDS);
- Use appropriate PPE;
- Correctly label containers and use warning signs where necessary;
- Ensure appropriate disposal;
- Report incidents regarding hazardous substances;
- Must not bring unauthorised substances onto an TasNetworks site, handle or dispose of substances incorrectly;
- Workers who procure goods must ensure appropriate assessment as per Section 3.1 Procurement of a New Hazardous Substance of this document; and
- Contractors and subcontractors, including cleaners, who supply and use hazardous substances at TasNetworks sites, are required to notify TasNetworks of the substances, maintain a register onsite and ensure personnel are appropriately trained to handle the substances.

How everyone contributes to managing health safety and environmental matters in general is provided in the TasNetworks HSEQ Responsibilities Procedure.

13. Reference Documents

The following documents were reviewed as part of developing this procedure:

Legislation
• *Work Health and Safety Act 2012* • *Environmental Management and Pollution Control Act 1994* • *Dangerous Goods (Road and Rail Transport) Act 2010* • *Work Health and Safety Act 2012* • *Work Health and Safety Regulations 2012* • *WHS Regulations 2012* (Schedule 11 – Placard and Manifest Quantities) • *Environmental Management and Pollution Control (Controlled Waste Tracking) Regulations 2010*
Codes of Practice, Industry Codes, etc
• Workplace Standards CP120: Managing the Risks of Hazardous Chemicals in the Workplace. • Globally Harmonised System of Classification and Labelling of Chemicals (GHS) • Code of Practice for the labelling of workplace hazardous chemicals • Australian Dangerous Goods Code (7th Edition) [ADGC7] • National Standard for the Storage and Handling of Workplace Dangerous Goods [NOHSC: 1015 (2001)]. • *Workplace Exposure Standards for Airborne Contaminants*, Safe Work Australia 2013 • *Guidance on the Interpretation of Workplace Exposure Standards for Airborne Contaminants*, Safe Work Australia 2013 • Managing the Risks of Hazardous Chemicals in the Workplace Code of Practice Worksafe Australia 2012 • *Australian Code for the Transport of Dangerous Goods by Road & Rail*, National Transport Commission 2015, also known as *Australian Dangerous Goods Code Edition 7.4.*
TasNetworks Documents (Presented in the order that they appear in the document)
• Managing HSE Change Procedure • HSEQ Consultation and Communication Procedure • HSE Risk Management Procedure • Documentation and Records Management Procedure • Personal Protective Equipment Procedure • Asbestos Management Plan • Management of Insultating Oil Procedure • SF6 Gas Procedure • Site Emergency Planning Procedure • Waste Management Procedure • Incident Management Procedure

• HSEQ Auditing Procedure • HSEQ Responsibilities procedure
Forms
• Authorised function approval request
Other Documents/Resources
• Australian Drug Foundation http://www.druginfo.adf.org.au/

14. Records Arising from this Procedure

Record	Storage Location
Stored Documents and associated correspondence and approvals etc.	Record Point, Wasp, TVD, Promapp ZONE- Intranet site

15. Glossary & Abbreviations

ADG Code – The Australian Code for the Transport of Dangerous Goods by Road and Rail.

CCA – Copper chrome arsenic

Dangerous goods – Substances and articles that are listed in the ADG Code. Most substances and mixtures that are dangerous goods under the ADG Code are hazardous chemicals, except those that have only radioactive hazards (class 7 dangerous goods), infectious substances (division 6.2) and most class 9 (miscellaneous) dangerous goods. A comparison of dangerous goods classifications under the Australian Dangerous Goods Code (ADG code) with those under the Globally Harmonised System for the classification of Labelling of Chemicals (GHS) is provided in Appendix E – Placard and Manifest Quantities Table.

Hazardous chemical – any substance, mixture or article that satisfies the criteria of one or more GHS hazard classes, including a classification in Schedule 6 of the WHS Regulations. However, some hazard classes and categories of the GHS are excluded by the WHS Regulations.

HSEQ – Health Safety Environment and Quality

Health and Safety Representative (HSR) – A person elected in accordance with the WHS Act to represent workers in a workgroup on work health and safety matters. This person will also represent workers on environmental and sustainability matters.

ICAR – improvement corrective action report.

Safety Data Sheet (SDS) – Document that describes the properties and uses of a substance including: identity, chemical and physical properties, health hazard information, precautions for use, and safe handling information.

SF6 – Sulphur hexafluoride**Manifest Quantity Workplace (MQW) –** If the total volume of substance stored at a site is greater than the 'manifest quantity' in Schedule 11 of the WHS Regulations (refer to Appendix E – Placard and Manifest Quantities Table) there may be a requirement to notify Workplace Standards Tasmania and prepare a manifest. Please contact the HSEQ team for assistance.

PCB – Polychlorinated biphenyls

PCBU – Person conducting a business or undertaking

PPE – Personal protection equipment

Placard Load – A load of packaged dangerous goods is a placard load if the load contains: dangerous goods of Class 2.1 flammable gases (eg. LP gas); or Class 2.3 toxic gas (eg. liquefied chlorine, ammonia); or dangerous goods of Packing Group 1 where the aggregate quantity of dangerous goods in the load is at least 250 kg or L; or any other load where the aggregate quantity is at least 1000 kg/L.

Worker – A worker is someone who carries out work for TasNetworks. It includes employees, outworkers, apprentices, trainees, students gaining work experience, volunteers, contractors or subcontractors and their employees.

Work Health and Safety Regulations: Classification and labelling for workplace hazardous chemicals

safe work australia

Classification		Labelling			
Hazard		Pictogram, code*	Signal word	Hazard Statement	
Class	Category			Code*	Text
Explosives	Unstable explosive	GHS01	Danger	H200	Unstable explosive
	Division 1.1			H201	Explosive; mass explosion hazard
	Division 1.2			H202	Explosive; severe projection hazard
	Division 1.3			H203	Explosive; fire, blast or projection hazard
	Division 1.4		Warning	H204	Fire or projection hazard
	Division 1.5	No GHS Pictogram (1)	Danger	H205	May mass explode in fire
	Division 1.6	No GHS Pictogram (1)	No Signal Word	N/A	No Hazard Statement
	(1)=Explosives of Divisions 1.5 and 1.6 need to be labelled with their respective Dangerous Goods class label in accordance with the Australian Explosives Code.				
Flammable Gases	Category 1	GHS02	Danger	H220	Extremely flammable gas
Flammable Aerosols	Category 1	GHS02	Danger	H222	Extremely flammable aerosol
	Category 2		Warning	H223	Flammable aerosol
Oxidising Gases	Category 1	GHS03	Danger	H270	May cause or intensify fire; oxidiser
Gases under Pressure (2)	Compressed gas	GHS04	Warning	H280	Contains gas under pressure; may explode if heated
	Liquefied gas				
	Dissolved gas				
	Refrigerated liquefied gas			H281	Contains refrigerated gas; may cause cryogenic burns or injury.
	(2) = The hazard class "Gases under Pressure" is subdivided into 'Groups' (not 'Categories').				
Flammable Liquids	Category 1	GHS02	Danger	H224	Extremely flammable liquid and vapour
	Category 2			H225	Highly flammable liquid and vapour
	Category 3		Warning	H226	Flammable liquid and vapour
	Category 4	No Pictogram	Warning	H227	Combustible liquid
Flammable Solids	Category 1	GHS02	Danger	H228	Flammable solid
	Category 2		Warning		
Self-reactive substances and mixtures (3)	Type A	GHS01	Danger	H240	Heating may cause an explosion
	Type B	GHS01 + GHS02		H241	Heating may cause a fire or explosion
Organic Peroxides (3)	Type C and D	GHS02		H242	Heating may cause a fire
	Type E and F		Warning		
	Type G	No Pictogram	No Signal Word	N/A	No Hazard Statement
	(3) = Two separate hazard classes have the same categories (and are therefore grouped).				
Pyrophoric Liquids	Category 1	GHS02	Danger	H250	Catches fire spontaneously if exposed to air
Pyrophoric Solids	Category 1				
Self-heating substances and mixtures	Category 1		Danger	H251	Self-heating; may catch fire
	Category 2		Warning	H252	Self-heating in large quantities; may catch fire
Substances and mixtures which, in contact with water, emit flammable gases	Category 1		Danger	H260	In contact with water releases flammable gases which may ignite spontaneously
	Category 2		Danger	H261	In contact with water releases flammable gases
	Category 3		Warning		
Oxidising Liquids (4)	Category 1	GHS03	Danger	H271	May cause fire or explosion; strong oxidiser
Oxidising Solids (4)	Category 2		Danger	H272	May intensify fire; oxidiser
	Category 3		Warning		
	(4) = Two separate hazard classes have the same categories (and are therefore grouped).				
Corrosive to metals	Category 1	GHS05	Warning	H290	May be corrosive to metals
Acute Toxicity (Oral, Dermal or Inhalation)	Category 1	GHS06	Danger	H300 H310 H330	Fatal if swallowed Fatal in contact with skin Fatal if inhaled
	Category 2				
	Category 3			H301 H311 H331	Toxic if swallowed Toxic in contact with skin Toxic if inhaled
	Category 4	GHS07	Warning	H302 H312 H332	Harmful if swallowed Harmful in contact with skin Harmful if inhaled
Skin corrosion / Irritation	Category 1A	GHS05	Danger	H314	Causes severe skin burns and eye damage
	Category 1B				
	Category 1C				
	Category 2	GHS07	Warning	H315	Causes skin irritation

Classification		Labelling			
Hazard		Pictogram, code*	Signal word	Hazard Statement	
Class	Category			Code*	Text
Serious eye damage / eye irritation	Category 1	GHS05	Danger	H318	Causes serious eye damage
	Category 2A	GHS07	Warning	H319	Causes serious eye irritation
Sensitisation of the respiratory tract or the skin	Respiratory Sensitisers Category 1	GHS08	Danger	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
	Skin Sensitisers Category 1	GHS07	Warning	H317	May cause an allergic skin reaction
Germ cell mutagenicity	Category 1A	GHS08	Danger	H340	May cause genetic defects (5)
	Category 1B				
	Category 2		Warning	H341	Suspected of causing genetic defects (5)
Carcinogenicity	Category 1A		Danger	H350	May cause cancer (5)
	Category 1B				
	Category 2		Warning	H351	Suspected of causing cancer (5)
	(5) = State route of exposure if it is conclusively proven that no other routes of exposure cause the hazard.				
Reproductive toxicity	Category 1A	GHS08	Danger	H360 (6) H360F (7) H360D (7) H360FD (7)	May damage fertility or the unborn child. May damage fertility. May damage the unborn child May damage fertility. May damage the unborn child.
	Category 1B			H360Fd (7) H360Df (7)	May damage fertility. Suspected of damaging the unborn child. May damage the unborn child. Suspected of damaging fertility.
	Category 2		Warning	H361 (6) H361f (7) H361d (7) H361fd (7)	Suspected of damaging fertility or the unborn child. Suspected of damaging fertility. Suspected of damaging the unborn child. Suspected of damaging fertility. Suspected of damaging the unborn child.
	Additional category for effects on or via lactation	No Pictogram	No Signal Word	H362	May cause harm to breast-fed children.
	(6) = (state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard). (7) F = Fertility, D= Development (lowercase f, d = suspected effect).				
Specific target organ toxicity (single exposure)	Category 1	GHS08	Danger	H370	Causes damage to organs (8,9)
	Category 2		Warning	H371	May cause damage to organs (8,9)
	Category 3	GHS07	Warning	H335	May cause respiratory irritation
				H336	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	Category 1	GHS08	Danger	H372	Causes damage to organs (8) through prolonged or repeated exposure (9)
	Category 2		Warning	H373	May cause damage to organs (8) through prolonged or repeated exposure (9)
	(8) = (state all organs affected, if known). (9) = (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).				
Aspiration Toxicity	Category 1	GHS08	Danger	H304	May be fatal if swallowed and enters airways

* = The code for the Pictogram and Hazard Statement should not be included on the label.

Classification is a process used to determine if a chemical can cause harm to human health and safety. It involves the identification and evaluation of the physical properties of a chemical, along with its health effects. It is the classification of a hazardous chemical that determines what information is communicated on the label and the Safety Data Sheet (SDS - previously known as Material Safety Data Sheet).

The Work Health and Safety (WHS) Regulations introduce a new system of chemical classification and hazard communication on labels and Safety Data Sheets, based on the Globally Harmonised System of Classification and Labelling of Chemicals (GHS). This will replace the classification and hazard communication systems for workplace hazardous substances and dangerous goods. It will not replace requirements for dangerous goods transport.

This poster shows GHS signal words, pictograms and hazard statements for each GHS hazard class and category covered by the WHS Regulations that will soon appear on labels and SDS for workplace hazardous chemicals.

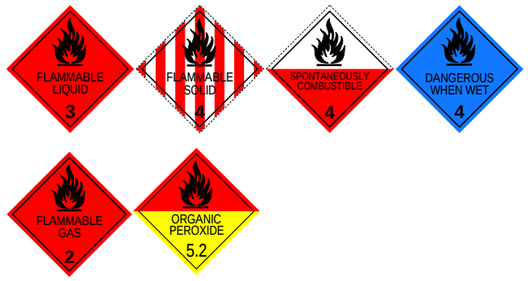
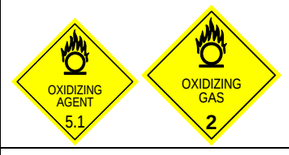
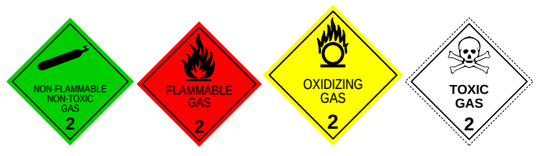
There will be a five year **transitional period** for moving to the new GHS-based system. During this time, both the hazardous substances and dangerous goods classification systems and the GHS are recognised under the new WHS laws. By 31 December 2016 all workplace hazardous chemicals must be classified according to the GHS and labels and SDS must be updated.

Further information on classification, labelling and safety data sheet requirements under the WHS Regulations, including transitional arrangements, is available from the Safe Work Australia website at www.safeworkaustralia.gov.au.

Safe Work Australia would like to acknowledge the assistance of the Irish Health and Safety Authority and the German Federal Institute for Occupational Health and Safety, BAuA, who provided the information upon which this poster is based.

Appendix B – Comparison of GHS Hazard Pictograms with ADG Code Class Labels

The table below compares hazard pictograms from the GHS with the corresponding ADG Code class labels

Hazard Pictograms	GHS Hazard	Dangerous Goods class labels (pictograms)	Dangerous goods classes
	Explosives Self-reactives Organic peroxides		Explosive
	Flammables Self-reactives Pyrophorics Self-heating Emits flammable gas in contact with water Organic peroxides		• Flammability (Liquid, Solid or Gas) • Pyrophoric, • Emits Flammable Gas • Organic Peroxide
	Oxidisers		• Oxidiser • Oxidising gas
	Gases under pressure		Non-toxic non-flammable gas, flammable gas, oxidising gas, toxic gas
	Acute toxicity		• Acute toxicity • Acute Toxic gas
	Acute toxicity Skin irritants Eye irritants Skin sensitisers	No equivalent	
	Carcinogens Respiratory sensitisers Reproductive toxicants Target organ toxicants Germ cell mutagens	No equivalent	
	Eye corrosion Skin corrosion Corrosive to metal		Corrosive to metals
	Aquatic toxicity. Not covered within the scope of workplace hazardous chemicals requirements		Environmental hazard
No equivalent hazard pictogram			Miscellaneous dangerous goods
Not covered within the scope of workplace hazardous chemicals requirements			Infectious
Not covered within the scope of workplace hazardous chemicals requirements			Radioactive

Appendix C: Hazardous Substance Purchase Checklist

This checklist is to be used for the initial purchase of a new hazardous substance. Refer to the Hazardous Substances Management Procedure Section 3. Procurement of a new hazardous substance.

Person applying to purchase:	**Date:**
Proposed hazardous substance use location:	
Proposed hazardous substance storage location:	

Steps	**Yes/No or NA**	**Provide details**
Is the chemical currently approved for use? Follow the steps in Section 2.1 Chemical Register to check Chemical Register.		
Have you obtained and reviewed the current Australian compliant SDS from the supplier?		
Conduct a risk assessment for the planned use of your chemical, using the Safety Data Sheet to provide key information. What is the hazard classification of the chemical? Has a reasonable effort been made to select the least hazardous chemical to do the required job?		
Are there appropriate and compliant storage facilities available to store and handle the chemical? (consider Storage and Handling of Dangerous Goods Code of Practice)		
Have the requirements for handling and use been determined? Has a JHA been completed for the chemical use? Do workers understand the risks and the controls in place? Are workers competent to manage the risks?		
Are there appropriate emergency procedures and equipment in place to manage any incident associated with the chemical? (eg. Safety showers, eye wash, spill kits, fire extinguishers, first aid)		
Have waste management requirements been considered? Has it been determined what types and amounts of waste will be produced and how will it be managed? Will any controlled wastes be produced?		

Appendix D: Dangerous Goods Segregation Chart

CLASS		2		3	4			5		6	8
		FLAMMABLE GAS 2	COMPRESSED GAS 2	FLAMMABLE LIQUID 3	FLAMMABLE SOLID 4	SPONTANEOUSLY COMBUSTIBLE 4	DANGEROUS WHEN WET 4	OXIDIZING AGENT 5.1	ORGANIC PEROXIDE 5.2	TOXIC 6	CORROSIVE 8
COMPRESSED GASES 2.1 Flammable	2	Compatible	KEEP APART	Segregate from	Segregate from	Segregate from	Segregate from	Segregate from	ISOLATE	KEEP APART	KEEP APART
2.2 Non-flammable/ non-toxic	2	KEEP APART	Compatible	KEEP APART	Segregation may be necessary	Segregate from	Segregation may be necessary	Segregation may be necessary	Segregate from	Segregation may be necessary	KEEP APART
FLAMMABLE LIQUIDS (and Combustible liquids)	3	Segregate from	KEEP APART	Compatible	KEEP APART	Segregate from	Segregate from	Segregate from	ISOLATE	KEEP APART	KEEP APART
FLAMMABLE SOLIDS 4.1 Flammable solids	4	Segregate from	Segregation may be necessary	KEEP APART	Compatible	KEEP APART	Segregate from	Segregate from	Segregate from	KEEP APART	Segregation may be necessary
4.2 Spontaneously combustable	4	Segregate from	Segregate from	Segregate from	KEEP APART	Compatible	KEEP APART	Segregate from	ISOLATE	KEEP APART	KEEP APART
4.3 Dangerous when wet	4	Segregate from	Segregation may be necessary	Segregate from	Segregate from	KEEP APART	Compatible	KEEP APART	Segregate from	Segregation may be necessary	Segregation may be necessary
OXIDIZING SUBSTANCES 5.1 Oxidizing agents	5	Segregate from	Segregation may be necessary	Segregate from	Segregate from	Segregate from	KEEP APART	*	Segregate from	KEEP APART	KEEP APART
5.2 Organic peroxides	5	ISOLATE	Segregate from	ISOLATE	Segregate from	ISOLATE	Segregate from	Segregate from	Compatible	KEEP APART	KEEP APART
TOXIC SUBSTANCES	6	KEEP APART	Segregation may be necessary	KEEP APART	KEEP APART	KEEP APART	Segregation may be necessary	KEEP APART	KEEP APART	Compatible	Segregation may be necessary
CORROSIVE SUBSTANCES	8	KEEP APART	KEEP APART	KEEP APART	Segregation may be necessary	KEEP APART	Segregation may be necessary	KEEP APART	KEEP APART	Segregation may be necessary	*

LEGEND:

Compatible	Dangerous goods of the same Class should be compatible; consult MSDS or suppliers about requirements for individual substances.
*	Dangerous goods of the same Class could be incompatible or react dangerously. Consult the MSDS or suppliers about requirements for individual substances.
Segregation may be necessary	Segregation of these Classes may be necessary. Consult the MSDS or supplier.
KEEP APART	Dangerous goods of these Classes should be kept apart by at least 3 m. Consult the MSDS or supplier.
Segregate from	These combinations of dangerous goods should segregated by at least 5 m and kept in separate compounds or building compartments.
ISOLATE	This requirement applies to organic peroxides, for which dedicated stores or storage cabinets are recommended. Adequate separation from other buildings and boundaries is required.

NOTES:

1 In all cases, the MSDS or supplier of the goods should be consulted.
2 The segregation of dangerous goods of Division 1.4S may be necessary. Consult the MSDS or the supplier of the goods.
3 Combustible liquids shall be segregated in the same manner as flammable liquids of Class 3.
4 Dangerous goods of Class 9 should be segregated in accordance with MSDS.
6 If the dangerous goods have a Subrisk of another class, then the segregation requirements for the Subrisk need to be determined and the more stringent segregation requirements applied.
7 Where smoke detectors are to be stored, their supplier should be consulted and any specific storage and handling recommendations followed.

(reference Australian Standard AS3833 figure 6.1)

Placard and manifest requirements under the Work Health and Safety Regulations

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The Work Health and Safety (WHS) Regulations require a person conducting a business or undertaking to placard the workplace, prepare a manifest and notify the regulator where specified quantities of certain hazardous chemicals exceed threshold amounts. The threshold amounts and types of hazardous chemicals are prescribed in Schedule 11 of the WHS Regulations.

The new WHS Regulations introduce a number of changes to placard and manifest requirements compared to pre-harmonised laws. A key change is the use of hazard classes and categories under the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), instead of classes and categories of dangerous goods according to the Australian Code for the Transport of Dangerous Goods by Road or Rail 7th Edition (ADG Code).

This guidance note assists duty holders comply with the requirements for placards and manifests under the WHS Regulations. It shows the link between GHS classes and categories and equivalent classes of dangerous goods under the ADG Code.

Column 1	Column 2	Column 3	Column 4	Column 5	ADG Code Classification
Item	Description of hazardous chemical		Placard quantity	Manifest quantity	
1	Flammable gases	Category 1	200 L	5 000 L	2.1
2	Gases under pressure	Acute toxicity, categories 1, 2, 3 or 4 Note 1—Category 4 only up to LC_{50} of 5000 ppmV	50 L	500 L	2.3 - Note 2
3		Skin corrosion categories 1A, 1B or 1C	50 L	500 L	2.3 - Note 2
4		Aerosols (including flammable aerosols)	5000 L	10 000 L	2.1 or 2.2
5		Not specified elsewhere in this table	1000 L	10 000 L	2.2
6	Flammable liquids	Category 1	50 L	500 L	3 (PG I)
7		Category 2	250 L	2500 L	3 (PG II)
8		Category 3	1000 L	10 000 L	3 (PG III)
9		Any mix of chemicals from Items 6 – 8 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 L	10 000 L	
10		Category 4	10 000 L	100 000 L	Note 3
11	Self-reactive substances	Type A	5 kg or L	50 kg or L	GTDTBT – Note 4
12		Type B	50 kg or L	500 kg or L	4.1 (Type B)
13		Type C-F	250 kg or L	2500 kg or L	4.1 (Type C-F)
14	Flammable solids	Category 1	250 kg	2500 kg	4.1 (PG II)
15		Category 2	1000 kg	10 000 kg	4.1 (PG III)
16		Any mix of chemicals from Items 12 - 15 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 kg or L	10 000 kg or L	
17	Pyrophoric liquids and Pyrophoric solids	Category 1	50 kg or L	500 kg or L	4.2 (PG I)
18	Self heating substances and mixtures	Category 1	250 kg or L	2500 kg or L	4.2 (PG II)
19		Category 2	1000 kg or L	10 000 kg or L	4.2 (PG III)
20		Any mix of chemicals from Items 17 - 19 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 kg or L	10 000 kg or L	
21	Substances which in contact with water emit flammable gas	Category 1	50 kg or L	500 kg or L	4.3 (PG I)
22		Category 2	250 kg or L	2500 kg or L	4.3 (PG II)
23		Category 3	1000 kg or L	10 000 kg or L	4.3 (PG III)
24		Any mix of chemicals from Items 21 - 23 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 kg or L	10 000 kg or L	
25	Oxidising liquids and Oxidising solids	Category 1	50 kg or L	500 kg or L	5.1 (PG I)
26		Category 2	250 kg or L	2500 kg or L	5.1 (PG II)
27		Category 3	1000 kg or L	10 000 kg or L	5.1 (PG III)
28		Any mix of chemicals from Items 25 - 27 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 kg or L	10 000 kg or L	
29	Organic peroxides	Type A	5 kg or L	50 kg or L	GTDTBT – Note 4
30		Type B	50 kg or L	500 kg or L	5.2 (Type B)
31		Type C-F	250 kg or L	2500 kg or L	5.2 (Type C-F)
32		Any mix of chemicals from Items 30 and 31 where none of the items exceeds the quantities in columns 4 or 5 on their own	250 kg or L	2500 kg or L	
33	Acute toxicity (Note 5)	Category 1	50 kg or L	500 kg or L	6.1 (PG I)
34		Category 2	250 kg or L	2500 kg or L	6.1 (PG II)
35		Category 3	1000 kg or L	10 000 kg or L	6.1 (PG III)
36		Any mix of chemicals from Items 33 - 35 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 kg or L	10 000 kg or L	
37	Skin corrosion	Category 1A	50 kg or L	500 kg or L	8 (PG I)
38		Category 1B	250 kg or L	2500 kg or L	8 (PG II)
39		Category 1C	1000 kg or L	10 000 kg or L	8 (PG III)
40	Corrosive to metals	Category 1	1000 kg or L	10 000 kg or L	8 (PG III)
41		Any mix of chemicals from Items 37 - 40 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000 kg or L	10 000 kg or L	
42	Unstable explosives		5 kg or L	50 kg or L	GTDTBT – Note 4
43		Any mix of chemicals from items 11, 29 and 42 where none of the items exceed the quantities in columns 4 or 5 on their own	5 kg or L	50 kg or L	GTDTBT – Note 4

NOTES:

1. For item 2, gases under pressure with acute toxicity category 4 only applies up to a LC_{50} of 5000 ppmV, which is equivalent to Div. 2.3 under the ADG code.
2. Division 2.3 under the ADG Code includes gases and vapours as acutely toxic (categories 1, 2 and 3) and gases which are corrosive to skin (category 1).
3. Only liquids with a flash point of up to 93°C are classified as flammable liquids under the WHS Regulations. C1 combustible liquids with flash points between 93°C and 150°C are not classified as flammable liquids under the GHS or WHS Regulations.
4. GTDTBT = Goods too dangerous to be transported.
5. For gases classified with Acute Toxicity, the placard and manifest quantities as defined under item 2, rather than items 33-36, should be used.

Flammable liquid classification: For the purposes of this table, if a flammable liquid of category 4 is used, handled or stored in the same spill compound as one or more flammable liquids of categories 1, 2 or 3, the total quantity of flammable liquid is determined as if the flammable liquid of category 4 had the same classification as the flammable liquid in the spill compound with the lowest flash point. For example, 1000 L of flammable liquid category 1 and 1000 L of flammable liquid category 4 is considered to contain 2000 L of flammable liquid category 1.

For further information on placard and manifest requirements in your state or territory, contact your local Work Health and Safety regulator.

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Appendix F: Storage and Transport of Hazardous Chemicals Checklist

Hazardous Chemical Storage	
Steps	Comments
Are chemicals stored in accordance with existing legislative requirements? (At minimum, storage is in accordance with practices described on the SDS, relevant, Standards, or any other code or documentation that describes good practice e.g. Dangerous Goods Code).	
Are registers prepared as required and maintained effectively?	
Are routine periodic inspections carried out for each store, and are stores adequately maintained?	
Is storage of chemicals done in a manner to reduce the potential to spill and pollute e.g. spill containment?	
Are chemicals stored in suitable containers?	
Are containers clearly and unambiguously labelled?	
Are mixed classes of Hazardous Substances appropriately separated & segregated as required?	
Are appropriate drawings indicating the location of stores where Hazardous substances are stored, maintained for each site and included in the site Emergency Evacuation Diagram and Action Guide?	
Transport of Hazardous Chemicals	
Steps	Comments
Is it a mixed load? If so, have you considered compatibility and segregation of substances?	
Is a controlled waste being transported? If so, a permit is needed.	
Is the packaging suitable and adequate?	
Is the labelling suitable and adequate?	
Is the transport method suitable and adequate?	
Is placarding necessary (quantity equals or exceeds the placard quantity)?	

Is emergency / protective equipment necessary?	
Are security and containment (e.g., spill containment / clean-up equipment) suitable and adequate?	
Has the receiving location been notified?	
If staff are transporting chemicals, are they competent to do so? ***Note:*** *only licenced contractors may transport a placard load of Dangerous Goods.*	

Appendix F: Hazardous Substances Audit Template

This internal audit is conducted to verify the accuracy of information, and the currency and effectiveness of controls for hazardous substance risks.

Location:		
Auditor:	*Date:*	
Control	Control Effectiveness	Observations/Opportunities for Improvement/Findings
Is there an up to date register of all hazardous substances used in the workplace? Has it been updated annually?		
Are you aware if there are placard or manifest quantities of hazardous substances on site? What are some of the large volume chemicals onsite and their volume?		
Are safety data sheets (SDS) available for all hazardous substances? Are all SDS kept less than 5 years old?		
Are all workers and visitors who could potentially be exposed to hazardous substances at the workplace made aware of the hazardous substances used, SDS and trained to take necessary action in an emergency? Are chemicals covered site/depot induction?		
What are the significant chemical risks? Have risk assessments been done for any work involving potential exposure to hazardous substances (eg. JRA's, SWMS)?		
Have any new chemicals or substances been purchased in last 6 months? Was a risk assessment performed? What consultation has taken place (HSR and HSETC Team)?		
Are there controlled access/security measures in place? (fencing, locked areas, alarms etc.)		
Are all containers adequately labelled and are containers suitable and undamaged? (Labelling – product name, manufacturer, ingredients, health and safety information, hazard warnings)		
HazChem placarding?		
Are all areas in which hazardous substances are used or stored well ventilated?		

Segregation and separation (e.g. protected works, boundaries and ignition sources)?		
Transport of hazardous substances – transported in accordance with the SDS – licence to transport (packaging, labelling, and loading – Australian Dangerous Goods Code)		
Is appropriate PPE available?		
What are the first aid arrangements, including any special requirements?		
Emergency response procedures and equipment and spill management (eg. bunds, absorbent materials, fire extinguishers, neutralising agents such as lime & soda ash, emergency showers & eye wash stations, and appropriate tools and PPE for clean-up)		
Is there a site plan (included in the emergency management plan) showing storage areas and volumes of substances held in bulk for access by emergency services personnel?		
Training (matrix and accreditations) What are the current competencies and training (e.g. emergency response, PPE, SDS, handling, labelling, disposal)		
Reporting (hazardous chemicals incidents) and management		
Communications Re: hazardous substances learnings		
Involvement in audits, including a schedule?		
Other comments		

Audit Summary

Audit Highlights:	
Challenges:	

Actions

All actions must be agreed with the risk owner and raised in the ICAR system to ensure actions are assigned and tracked through to completion.

Description	Responsible Person	Due Date	Completed

Actions agreed, assigned raised as ICARs:	*Signature of auditor*	*Date*