CHEMICAL MANAGEMENT HEALTH AND SAFETY PROCEDURE

***SECTION 4*** *Operational Procedures and Guidelines*

PURPOSE

***PROCEDURE***

This procedure provides guidance and information to enable the effective management of hazards associated with working with chemical substances, including hazardous substances as defined by the HSNO Act.

The objective of the procedure is to ensure a systematic approach ensure risks are assessed and controlled as far as reasonably practicable.

HAZARDOUS SUBSTANCE REQUIREMENTS

All hazardous substances are required to have approval under the Hazardous Substances and New Organisms (HSNO) Act. When a substance is approved, controls are applied that are designed to manage any risk from using, storing, transporting and disposing of the substance.

The Environmental Protection Authority is the regulatory body responsible for assessment and approval authorities for organisations and individuals using hazardous substances.

Information about specific requirements may be found from the links below:

### GENERAL GUIDANCE

[*http://www.hazardoussubstances.govt.nz/guide*](http://www.hazardoussubstances.govt.nz/guide)

[*http://www.epa.govt.nz/hazardous-substances/approvals/Pages/*](http://www.epa.govt.nz/hazardous-substances/approvals/Pages/default.aspx)[*default.aspx*](http://www.epa.govt.nz/hazardous-substances/approvals/Pages/default.aspx)

Hazardous substances, including petrol, solvents, industrial chemicals, agrichemicals, household cleaners and cosmetics, need to be approved before they can be used in New Zealand

Under the HSNO Act, a hazardous substance is any substance that has one or more of the following properties above specified levels:

 an explosive nature (including fireworks)

 flammability

 ability to oxidise (i.e. accelerate a fire)

 corrosiveness

 acute or chronic toxicity (toxic to humans)

 ecotoxicity, with or without bioaccumulation (i.e. can kill living things either directly or by building up in the environment)

 can generate a hazardous substance on contact with air or water.

Approvals are also sometimes needed for the people who use them, as well as the locations they are in, and certain types of storage facilities and equipment (for example tanks, gas cylinders).

#### Hazard Classification, Approvals and Controls

[*http://www.hazardoussubstances.govt.nz/media/19443/hazard\_*](http://www.hazardoussubstances.govt.nz/media/19443/hazard_classification_approvals_and_controls.pdf)[*classification\_approvals\_and\_controls.pdf*](http://www.hazardoussubstances.govt.nz/media/19443/hazard_classification_approvals_and_controls.pdf)

#### Understanding and Managing Effects to Health

[*http://www.hazardoussubstances.govt.nz/media/19446/keep\_*](http://www.hazardoussubstances.govt.nz/media/19446/keep_safe_with_hazardous_substances.pdf)[*safe\_with\_hazardous\_substances.pdf*](http://www.hazardoussubstances.govt.nz/media/19446/keep_safe_with_hazardous_substances.pdf)

#### Hazardous Substance Information

[*http://www.hazardoussubstances.govt.nz/media/19440/*](http://www.hazardoussubstances.govt.nz/media/19440/hazardous_substance_information.pdf)[*hazardous\_substance\_information.pdf*](http://www.hazardoussubstances.govt.nz/media/19440/hazardous_substance_information.pdf)

#### Hazardous Substance Storage Requirements

[*http://www.hazardoussubstances.govt.nz/media/19452/store\_*](http://www.hazardoussubstances.govt.nz/media/19452/store_hazardous_substances_safely.pdf)[*hazardous\_substances\_safely.pdf*](http://www.hazardoussubstances.govt.nz/media/19452/store_hazardous_substances_safely.pdf)

#### Hazardous Substance Emergency Response Requirements

[*http://www.hazardoussubstances.govt.nz/media/19434/*](http://www.hazardoussubstances.govt.nz/media/19434/emergency_preparation.pdf)[*emergency\_preparation.pdf*](http://www.hazardoussubstances.govt.nz/media/19434/emergency_preparation.pdf)

#### Hazardous Substance Test Certificate Requirements

[*http://www.hazardoussubstances.govt.nz/media/19455/test\_*](http://www.hazardoussubstances.govt.nz/media/19455/test_certificates.pdf)[*certificates.pdf*](http://www.hazardoussubstances.govt.nz/media/19455/test_certificates.pdf)

GENERAL WORKPLACE CHEMICAL MANAGEMENT

### CHEMICAL REGISTER AND SAFETY DATA SHEETS

The responsible person shall ensure that an inventory of all chemicals and hazardous substances shall be prepared and maintained. This shall include, consumable chemicals, process chemicals and laboratory chemicals. The register should identify the location where the material is used. A template for a workplace chemical register is provided as attachment 1 to this procedure. The chemical register shall be made available at the workplace.

Safety Data Sheets (SDS) of each hazardous substance shall be readily accessible to all workers who may reasonably use or come into contact with the substance. The information on the safety data sheet must be available to a person handling the substance within 10 minutes of the information being required.

Safety Data Sheets (SDSs) are designed to protect the health and safety of people in the workplace by providing information on the hazards of substances and how they should be safely used, stored, transported and disposed of. SDSs also describe emergency procedures, such as what to do in the event of a spill or fire. Ideally SDSs should not be more than five years old. SDS

should be provided by suppliers at time of delivery / supply, if they are not made available then they should be requested from the supplier.

SDSs must include information under each of the following headings:

1. Product and company identification
2. Hazard(s) identification
3. Composition and information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Spillage, accidental release measures
7. Handling and storage
8. Exposure controls and personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

CHEMICAL STORAGE AND HANDLING

The SDS will provide details on storage requirements for specific chemicals. This will include aspects such as compatibility and separation requirements. The responsible person should ensure that quantities of chemicals stored are kept to a minimum.

Certain types of hazardous substances need to have sufficient distances between them to eliminate the risk of fire, explosion, or accumulation of toxic gases or vapours from a leak or spillage, etc. In order to prevent unwanted reactions from occurring in a storage area, incompatible chemicals should be separated and stored in compatible groups.

Wherever possible, workplace chemicals and hazardous substances must be stored in original containers and labelled as supplied. It is prohibited to use drink or food containers (discarded or new) to store chemicals. If transferred to or kept in other containers, these must be compatible, suitable for the purpose and labelled containers including lids, caps and seals, must be checked regularly for deterioration and replaced when necessary.

Incompatible classes of dangerous goods must be segregated to prevent any dangerous reactions. Segregation may be achieved by the use of an impervious barrier or by the separation distance sufficient to prevent contamination (a distance of 1.5 metres should be sufficient in most circumstances).

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Specific details on storage requirements for hazardous substances may be found from the publication Your Practical Guide to Working safely with Hazardous Substances:

[*http://www.hazardoussubstances.govt.nz/media/19452/store\_*](http://www.hazardoussubstances.govt.nz/media/19452/store_hazardous_substances_safely.pdf)[*hazardous\_substances\_safely.pdf*](http://www.hazardoussubstances.govt.nz/media/19452/store_hazardous_substances_safely.pdf)

Attachment 2 to this procedure provides a chart to enable safe segregation of specific types of hazardous substances and workplace chemicals to be assessed.

### VENTILATION

The purpose of ventilation is to create and maintain a safe working atmosphere in an area where chemicals are stored and handled. Ventilation is achieved by the introduction or recirculation of air by natural or mechanical means.

A safe working atmosphere is characterised by:

 sufficient oxygen levels for breathing;

 concentrations of hazardous gases, vapours, mists, fumes and dusts are within relevant exposure standards;

 concentrations of flammable gases, vapours, mists, fumes and dusts are below 5% of their lower explosion limit; and

 avoidance of the build-up of heat and extremes of temperature.

The different types of ventilation available include:

 natural ventilation

 local exhaust ventilation

 mechanical ventilation

### HANDLING

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Handling and use of workplace chemicals can expose workers to health hazards due to:

 Inhalation of fumes

 Contact with the skin

 Ingestion

***PROCEDURE***

All protective, such as eye protection, respiratory protection, gloves, aprons and rubber boots clothing specified in the MSDS must be available and must be worn.

Suitable absorption materials should be readily available for dealing with spills. Any dangerous goods or hazardous substance spill must be cleaned up immediately, taking appropriate precautions for the hazards of the material.

### STANDARD OPERATING PROCEDURES

The responsible person shall ensure that any operating procedures, risk control cards or other worker guidance material related to the handling, storage and use of workplace chemicals includes ALL relevant information from a SDS not less than 5 years old.

RECORD KEEPING

Records of chemical inventories shall be kept on site, along with current copies of safety data sheets that are not less than 5 years old.

TRAINING REQUIREMENTS

Workers shall be trained in specific requirements relating to:

 Handling of Workplace Chemicals

 Use of Spill Kits

 PPE required to be used when handling or working with workplace chemicals

### RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of workplace chemical training and make available during inspections and audits.

ATTACHMENTS

Attachment 1: Workplace Chemical Register Attachment 2: Dangerous Goods Segregation Chart

REFERENCES

#### Water New Zealand Procedures & Guidelines:

Health and Safety Procedures:

 Contractor Health and Safety Management

 Job Safety Analysis

 Fuel Handling and Storage

 Asbestos Management

 Biological Hazards

 Health and Safety Training Program

### LEGISLATION, REGULATION AND STANDARDS

 Health and Safety at Work Act 2015

 Health and Safety in Employment Regulations 1995

 Hazardous Substances and New Organisms (HSNO) Act 1996

 AS 1940:2004 The storage and handling of flammable and combustible liquids

 AS 2714:2008The storage and handling of organic peroxides

 AS 3780-2008 The storage and handling of corrosive substances

 AS 4326-2008 The storage and handling of oxidising agents

 AS/NZS 2243.10:2004 Safety in laboratories. Part 10– Storage of chemicals

 AS/NZS 3833:2007 The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers

 AS/NZS 4452:1997 The storage and handling of toxic substances

 AS/NZS 5026:2012 The storage and handling of Class 4 Dangerous Goods