HASLIN

Hazardous Chemicals Management

SEQ-PR-004

Document History			
Revision	Description of Amendments	Reviewed By	Date
2	Document Review	Manager SEQ	17/02/2011
3	Update with Quality/Environmental Standard 2015	Manager SEQ	20/10/2012
5	Update to Haslin's new branding	George Jedelsky	01/09/2016
6	Change when the use of SEQ-CL-011, Section 6.2	Jeremy Wallis	01/02/2017
7	Updated by TK	Tim Kelly	05/05/2024

Document Approval			
Revision	Approved By	Signature	Date
2	Colin Woods		17/02/2011
3	Colin Woods		20/10/2012
5	Colin Woods		01/09/2016
6	Colin Woods		01/02/2017
7	Colin Woods		05/05/2024

Review Panel	
Name	Position
Tim Kelly	Business Development and Improvement Manager
Iain Johnston	Quality Manager
Kate Pollock	QLD Safety Manager
Andrew Lynam	Environmental Manager
Jelmer Sanders	Senior Safety Coordinator

Table of Contents:

1. Scope

This procedure describes the processes and methods to be followed by Haslin employees and by subcontractors which are involved with purchasing, storing, handling or disposing of hazardous chemicals and/or dangerous goods.

The WHS Regulations include a number of specific requirements to manage the risks to health and safety associated with using, handling, generating and storing hazardous chemicals at a workplace. The duties include:

- correct labelling of containers and pipework, using warning placards and outer warning placards and displaying of safety signs
- maintaining a register and manifest (where relevant) of hazardous chemicals and providing notification to the regulator of manifest quantities if required
- identifying risk of physical or chemical reaction of hazardous chemicals and ensuring the stability of hazardous chemicals
- ensuring that exposure standards are not exceeded
- provision of health monitoring to workers
- provision of information, training, instruction and supervision to workers
- provision of spill containment system for hazardous chemicals if necessary
- obtaining the current safety data sheet (SDS) from the manufacturer, importer or supplier of the chemical and making the SDS readily available to workers
- controlling ignition sources and accumulation of flammable and combustible substances
- provision and availability of fire protection, firefighting equipment, emergency equipment and safety equipment
- preparing an emergency plan, and if the quantity of a class of hazardous chemical at a workplace exceeds the manifest quantity for that hazardous chemical, providing a copy of the emergency plan to the primary service organisation
- ensuring stability and support of containers for bulk hazardous chemicals including pipework and attachments
- decommissioning of underground storage and handling systems
- notifying the regulator as soon as practicable of abandoned tanks in certain circumstances.

2. Application

This procedure is applicable to all Haslin workplaces.

3. References

- Approved Criteria for Classifying Hazardous Chemicals [NOHSC: 1008(2004)]
- National Standard for the Storage and Handling of Workplace Dangerous Goods [NOHSC: 1015(2001)]
- Labelling-workplace-hazardous-chemicals-code-of-practice 2016 (NSW) – December 2022
- Preparation-safety-data-sheets-hazardous-chemicals-code-of-practice (NSW) – December 2022
- Managing risks of hazardous chemicals in the workplace code of practice (NSW) – December 2022
- Labelling-workplace-hazardous-chemicals-code-of-practice 2021 (QLD)
- Managing risks of hazardous chemicals in the workplace code of practice 2021 (QLD)
- Preparation-safety-data-sheets-hazardous-chemicals-code-of-practice 2021 (QLD)
- AS/NZS 2022: Anhydrous ammonia—Storage and handling
- AS 1894: The storage and handling of non-flammable cryogenic and refrigerated liquids
- AS/NZS 2927: The storage and handling of liquefied chlorine gas
- AS 4839: The safe use of portable and mobile oxy-fuel gas systems for welding, cutting, heating and allied processes
- AS 1940: The storage and handling of flammable and combustible liquids
- AS 4289: Oxygen and acetylene gas reticulation systems
- AS 3780: The storage and handling of corrosive substances
- AS / NZS 4745 Code of Practice for Handling Combustible Dusts
- AS/NZS 60079.10.2: Explosive atmospheres—Classification of areas—Explosive dust atmospheres.
- AS 1674.1: Safety in welding and allied processes—Fire precautions

4. Definitions

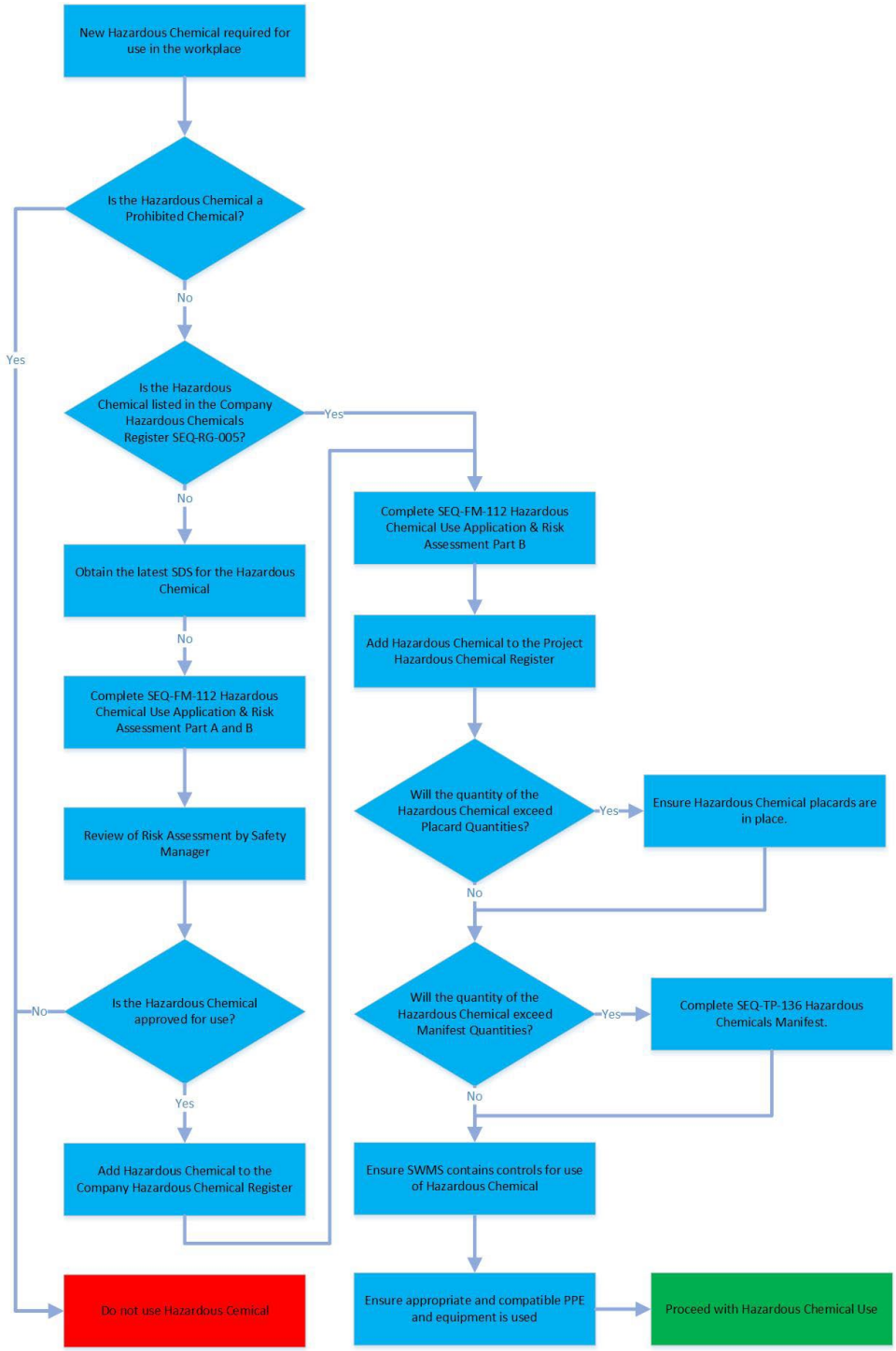
Hazardous chemicals	These are substances that can • Affect immediate health • Cause chronic illness [cancer, asthma, dermatitis etc.] • Cause illness with hidden symptoms or long-term effects [mutagenic, tetragenic etc.] • Also often classified as Dangerous Goods, but not always. • Be identified by the "List of Designated Hazardous chemicals" published on the website http://www.nohsc.gov.au and via labelling or corresponding SDS. • Be purchased from Suppliers or be generated from your own emissions, dust, and by-products of in-house processes.
Dangerous Goods	These are substances that can: • Affect immediate health [fires, explosions, poisoning etc.] • Be identified in the ADG Code [Australian Code for the Transport of Dangerous Goods by Road and Rail] There are nine classes: • Class 1 – Explosives • Class 2 – Compressed Gases • Class 3 – Flammable Liquids • Class 4 – Flammable Solids • Class 5 – Oxidising Agents [& organic Peroxides] • Class 6 – Poisonous [toxic] and Infectious Substances • Class 7 – Radioactive Substances • Class 8 - Corrosive Substances • Class 9 – Miscellaneous Dangerous Goods are subject to restrictions on transport and storage based on labelling, class and volume, and whether you are manufacturer or end-user.
Safety Data Sheets	Safety Data Sheets are abbreviated as SDS. Their purpose is to provide information needed to allow the safe transport, storage, handling, use and disposal of Hazardous chemicals at work. In addition, the SDS • Must be made available by manufacturer / reseller to customer, • Made available to work teams at the site where the work is carried out, • Controlled and maintained in a Register, • Replaced after five years from Issue date by manufacturer, • Forms the basis of the Risk Assessment process on hazardous chemicals

5. Legal Requirements

- WHS Act 2011 (NSW)
- WHS Regulations 2017 (NSW)
- WHS Act 2011 (QLD)
- WHS Regulations 2011 (QLD)

6. Procedure

The Haslin Project Manager, Senior Manager at each office or delegated person is responsible to identify all the Hazardous chemicals and Dangerous Goods used at each workplace.



6.1. Risk Assessment

The risks associated with hazardous chemicals in the workplace must be managed in accordance with SEQ-PR-001 Risk Management Procedure using the Hazard Identification, Risk Assessment, and Control measures (HIRAC) process. The

risks associated with hazardous chemical use must be minimised as much as possible by reducing the quantity, use and storage of hazardous chemicals in the workplace.

SEQ-FM-112 Hazardous Chemical Use Application & Risk Assessment which incorporates a risk assessment must be completed prior to the purchase, use or disposal in the workplace of any hazardous substance or dangerous good which has not been used by Haslin before. Hazardous chemicals already approved for use are listed in the SDS Register in Hammertech 000-Head Office, however a risk assessment using SEQ-FM-112 Hazardous Chemical Use Application & Risk Assessment must be completed for each new project.

6.2. Consult with workers and others

Consultation with workers regarding the use of hazardous chemicals must be undertaken to ensure that that worker input and participation will improve decision-making about health and safety matters and assist in reducing work-related injuries and disease.

The control measures may change the way work is carried out, in which case you must consult with workers and develop safe work procedures, and provide workers with training, instruction, information and supervision on the changes.

If there is more than one business or undertaking involved when working with hazardous chemicals, each will health and safety responsibilities. Therefore, communication and information exchange are essential to ensure both parties can work together in a cooperative and coordinated way so that risks are eliminated or minimised so far as is reasonably practicable.

6.3. Prohibited and restricted hazardous chemicals

WHS Regulations prohibit or restrict the use, storage or handling of certain hazardous chemicals in certain situations. Certain chemicals can be used, handled or stored in the workplace after receiving approval from the regulator. Schedule 10 of the WHS Regulations provides further information on the hazardous chemicals that are restricted or prohibited for use (see Appendix A). All Hazardous Carcinogens listed in Table 2 are prohibited to use at Haslin. Chemicals listed in Table 3 must not be used unless a risk assessment is performed for each use and approval given by the Safety Manager.

6.4. Exposure Standards

Exposure standards represent the airborne concentration of a particular substance or mixture that must not be exceeded. There are three types of exposure standard:

- 8-hour time-weighted average: the average airborne concentration of a particular substance permitted over an eight-hour working day and a five-day working week,
- peak limitation: a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes, and
- short term exposure limit: the time-weighted maximum average airborne concentration of a particular substance permitted over a 15-minute period.

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. To comply with the WHS Regulations, monitoring of workplace contaminant levels for chemicals with exposure standards may need to be carried out.

Further information on exposures standards is contained in SEQ-PR-021 Health Surveillance Procedure.

6.5. Safety Data Sheets (SDS)

You must obtain the current (less than 5 years old) SDS for any hazardous chemical from the Australian manufacturer, importer or supplier no later than when the chemical is first supplied at the workplace or as soon as practicable after it is first supplied, but before it is used at the workplace. An SDS from an overseas manufacture is not acceptable. An SDS is not required for consumer or domestic chemicals or chemicals used in the circumstances detailed in WHS Regulation part 328.4.

An SDS provides critical information about hazardous chemicals. For example, an SDS includes information on:

- the chemical's identity and ingredients
- health and physical hazards
- safe handling and storage procedures

- emergency procedures, and
- disposal considerations.

You must ensure that SDS are readily accessible to workers involved in using, handling or storing hazardous chemicals at the workplace, emergency service workers or anyone else who is likely to be exposed to the hazardous chemical. The SDS should be kept in a location near the work area where the substance is used as either a hard copy or electronically. You must ensure that all workers likely to be exposed to the hazardous chemical know how to find the SDS.

6.6. Hazardous Chemicals Register

Each workplace must ensure that a register of hazardous chemicals is prepared and kept up to date using SEQ-RG-005 Hazardous Chemicals Register which is the SDS Register in the Hammertech project workspace. The register must be readily accessible to workers involved in using, handling or storing hazardous chemicals and to anyone else who is likely to be affected by a hazardous chemical at the workplace.

The register is a list of the product names of all hazardous chemicals used, handled or stored at the workplace accompanied by the current SDS for each hazardous chemical listed. It must be updated as new hazardous chemicals are introduced to the workplace or when the use of a particular hazardous chemical is discontinued.

6.7. Manifest of Schedule 11 Hazardous Chemicals

A manifest is a written summary of specific types of hazardous chemicals with physical hazards, acute toxicity or skin corrosion that are used, handled or stored at a workplace. A manifest is different from a register because it contains more detailed information than a register of hazardous chemicals as its primary purpose is to provide the emergency services organisations with information on the quantity, classification and location of hazardous chemicals at the workplace. It also contains information such as site plans, emergency plans and emergency contact details and must be readily available to emergency services.

A manifest is only required where the quantities of those hazardous chemicals exceed the amounts prescribed in Schedule 11 of the WHS Regulations. If you store chemicals above the placard threshold quantity specified in Schedule 11 you must use placards to provide warnings about the stored hazardous chemicals

SEQ-TP-136 Hazardous Chemicals Manifest must be updated as soon as practicable after any change to the amount or types of chemicals being used, stored, handled or generated at the workplace. Manifest and placard quantities are contained in Appendix B.

6.8. Labels

You must ensure that hazardous chemicals, the containers of hazardous chemicals or hazardous chemicals in pipe work are correctly labelled. Some labels do not contain all hazard information, for example, on some consumer product labels, some agricultural and veterinary chemical products, where the label is too small to fit all relevant hazard information, or when hazardous chemicals that are dangerous goods are labelled to meet transport requirements. You should refer to the SDS when reading a label to ensure all chemical hazards are identified.

If you find a container that does not have a label or is incorrectly labelled, action must be taken to correctly label the container. Containers that have had chemicals transferred into them (decanted) in the workplace, and containers of chemical wastes must be labelled correctly.

If the contents of the container are not known, this should be clearly marked on the container, for example, 'Caution—do not use - unknown substance'. Such a container should be stored in isolation until its contents can be identified and, if it is then found to be hazardous, the container can be appropriately labelled. If the contents cannot be identified, they should be disposed of in accordance with relevant local waste management requirements.

6.9. Storage

Hazardous chemicals

All hazardous chemicals must be stored in safe and secured location. Access to the hazardous substance storage areas must be restricted to authorised persons, who are trained or experienced in storage and handling Hazardous chemicals. Storage areas must be prominently marked by erecting appropriate signage to warn employees in general and to restrict entry of unauthorised persons.

While storing two or more hazardous chemicals in one location, consideration should be given to the chemical reaction that may occur from mixing of two or more substances. Details of hazardous chemical that must be stored separately are provided in Appendix C.

As a general requirement, all dangerous goods must be stored in secured Dangerous Goods cabinets. Flammable liquids (Class 3) and liquid corrosive substances (Class 8) must be stored in bunded areas with appropriate capacity to contain the goods during any accidental spillage.

Dangerous goods must be stored in a manner and location so as to eliminate or minimise the risk of:

- Inadvertent instability or decomposition of dangerous goods during storage, to create greater hazard
- Harm to people, property and the environment at and beyond the boundaries of Haslin premises arising from any dangerous occurrence
- Interaction with other dangerous goods that are not compatible, to cause a dangerous occurrence
- Contamination of food, food packaging or personal use products.

Each workplace Manager must also ensure that:

- Unauthorised access to dangerous goods storage areas is controlled as far as practicable by applying appropriate physical and administrative means
- Ignition sources of all kind are strictly prohibited within 10 meter radius of the dangerous goods storage areas
- Suitable lighting is provided to enable safe access to and from the storage areas
- Any spillage, leakage or inadvertent release of solid or liquid dangerous goods is confined within the premises
- When a spill, leak or inadvertent release of dangerous goods occurs, immediate action is taken to assess and control any risk arising from the spill, leak or inadvertent release
- When a spill, leak or inadvertent release of dangerous goods occurs or is detected, the dangerous goods are contained, cleaned up and disposed of, or otherwise made safe, as soon as reasonably practicable
- Spill kit must be available in or close to chemical storage area with minimum capacity to absorb 50 litres. It must also contain a lid or physical barrier if a drain or water course is nearby and must contain the following items:
    a. Absorbent materials – to mop up and stop the chemical spill
    b. Chemical containers – to house the contents of split chemical packages
    c. Bins or large containers with lids – to place spilled chemical
    d. Chemical waste bags – to contain any resulting effluent
    e. Clean-up tools – such as brooms or shovels
    f. Personal Protective Equipment (PPE) – to protect staff who are tending to the spill

And any other items as required in AS 1940 – The storage and handling of flammable and combustible liquids.

All Haslin worksites and workplaces, particularly where dangerous goods are stored, shall be provided with fire protection and appropriate firefighting equipment. Haslin's Site Managers shall ensure that appropriate firefighting equipment is installed, periodically tested and maintained in good working condition.

Haslin's Emergency Response Procedures for worksites and workplaces shall be activated in the event of any emergency arising from the storage or handling of dangerous goods. Emergency procedures shall be communicated to all employees and sub-contractors through Health and Safety Induction for New Employees or Site Safety and Environmental Induction as appropriate.

Where required, Haslin's Site Managers shall obtain and maintain an appropriate licence from regulatory agencies for storage of dangerous goods above "manifest quantities" defined in regulations.

6.10.Handling

Handling of all hazardous chemicals and dangerous goods must be in accordance with the guidelines provided by the manufacturers in relevant Safety Data Sheets (SDS) and in the risk assessments.

Haslin employees and sub-contractors responsible for handling of hazardous chemicals and/or dangerous goods must ensure that:

- Relevant SDSs are read and understood prior to the handling of hazardous chemicals and/or dangerous goods
- Personal protective equipment as per the SDS is worn
- Hazardous chemicals and dangerous goods are handled in an appropriate manner so as to avoid the health and safety risks as mentioned in relevant SDSs

- The lids of containers are properly closed after partial use of the contents of any container
- Any spillage, leakage, inadvertent release or dangerous occurrence associated with Hazardous chemicals and dangerous goods is immediately reported to Haslin's Site Manager or Site Office Management as appropriate
- Containers and equipment used to store or use the hazardous chemical are compatible with the hazardous chemical and will not be damaged by it
- Controls for hazardous chemicals are included in the SWMS for the work activity.

6.11. Disposal

Disposal of the following requires special arrangements and precautions in order to comply with statutory requirements:

- Unused or date expired Hazardous chemicals
- Unused, unstable or decomposed dangerous goods
- Soil or solid waste contaminated with Hazardous chemicals or dangerous goods
- Liquid hazardous waste.

Haslin's Site Managers must contact the Safety Manager for appropriate advice prior to disposal of any hazardous substance or dangerous good or waste contaminated with Hazardous chemicals or dangerous goods.

6.12. Health Surveillance

In accordance with SEQ-PR-021 Health Surveillance Procedure, health surveillance shall be undertaken for Haslin employees who have been identified as having:

- A significant risk to health from exposure to a workplace hazardous substance
- Exposure to a hazardous substance for which:
    - An identifiable disease or health effect may be related to the exposure
    - There is a reasonable likelihood that the disease or health effect may occur under the particular condition of work
    - There are valid techniques for detecting indications of the disease or the effect
    - Where there is a valid biological monitoring procedure available and a reasonable likelihood that values might be exceeded.

6.13. Record Management

Responsible Haslin managers must maintain the following records for at least 7 (seven) years:

- Copies of completed hazardous chemicals and dangerous goods assessment checklists
- Workplace Health and Safety Risk Registers containing outcomes of health and safety risk assessment of hazardous chemicals and dangerous goods.

Results of biological monitoring and/or health surveillance shall be maintained for at least 30 years.

Such records shall be located conveniently so that managers, employees and employee representatives can gain access to the information to which they are entitled.

7. Training

Health and Safety Induction for new employees includes information about handling of workplace hazardous chemicals and dangerous goods. Haslin's Site Safety and Environmental Induction covers health and safety risks associated with the hazardous chemicals and dangerous goods stored and used on the worksite and the precautions to be taken by Haslin employees in handling such substances and goods.

Where required, Haslin employees shall be trained in the handling of Hazardous chemicals and dangerous goods in accordance with applicable statutory requirements. Training will also be provided for the use of fire extinguishers and the hazards involved with extinguishing the fire as soon as it starts before it has the chance to spread significantly.

Training records shall be maintained by Haslin's Training Coordinator.

8. Relevant Templates, Forms and Checklists

SEQ-RG-005	Hazardous Chemicals Register
SEQ-FM-112	Hazardous Chemical Use Application and Risk Assessment
SEQ-TP-136	Hazardous Chemicals Manifest

9. Appendix A - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals

The table below shows prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals, as specified in the WHS Regulations (Schedule 10) and WHS Regulations 340 and 380–384.

The prohibition of the use of carcinogens listed in Table 1 column 2 and the restriction of the use of carcinogens listed in Table 2 column 2 apply to the pure substance and where the substance is present in a mixture at a concentration greater than 0.1%, unless otherwise specified.

Table 1 Prohibited carcinogens

Column 1 Item	Column 2 Prohibited carcinogen [CAS number]
1	2-Acetylaminofluorene [53-96-3]
2	Aflatoxins
3	4-Aminodiphenyl [92-67-1]
4	Benzidine [92-87-5] and its salts (including benzidine dihydrochloride [531-85-1])
5	bis(Chloromethyl) ether [542-88-1]
6	Chloromethyl methyl ether [107-30-2] (technical grade which contains bis(chloromethyl) ether)
7	4-Dimethylaminoazobenzene [60-11-7] (Dimethyl Yellow)
8	2-Naphthylamine [91-59-8] and its salts
9	4-Nitrodiphenyl [92-93-3]

Table 2 Restricted carcinogens – **These have been prohibited for use at Haslin**

Column 1 Item	Column 2 Restricted carcinogen [CAS Number]	Column 3 Restricted use
1	Acrylonitrile [107-13-1]	Prohibited for use at Haslin
2	Benzene [71-43-2]	Prohibited for use at Haslin
3	Cyclophosphamide [50-18-0]	Prohibited for use at Haslin
4	3,3'-Dichlorobenzidine [91-94-1] and its salts (including 3,3'-Dichlorobenzidine dihydrochloride [612-83-9])	Prohibited for use at Haslin
5	Diethyl sulfate [64-67-5]	Prohibited for use at Haslin
6	Dimethyl sulfate [77-78-1]	Prohibited for use at Haslin
7	Ethylene dibromide [106-93-4]	Prohibited for use at Haslin

Column 1 Item	Column 2 Restricted carcinogen [CAS Number]	Column 3 Restricted use
8	4,4'-Methylene bis(2-chloroaniline) [101-14-4] MOCA	Prohibited for use at Haslin
9	3-Propiolactone [57-57-8] (Beta-propiolactone)	Prohibited for use at Haslin
10	o-Toluidine [95-53-4] and o-Toluidine hydrochloride [636-21-5]	Prohibited for use at Haslin
11	Vinyl chloride monomer [75-01-4]	Prohibited for use at Haslin

Table 3 Restricted hazardous chemicals – **Chemicals listed in Table 3 must not be used unless a risk assessment is performed for each use and approval given by the Safety Manager.**

Column 1 Item	Column 2 Restricted hazardous chemical	Column 3 Restricted use
1	Antimony and its compounds	For abrasive blasting at a concentration of greater than 0.1% as antimony
2	Arsenic and its compounds	For abrasive blasting at a concentration of greater than 0.1% as arsenic For spray painting
3	Benzene (benzol), if the substance contains more than 1% by volume	For spray painting
4	Beryllium and its compounds	For abrasive blasting at a concentration of greater than 0.1% as beryllium
5	Cadmium and its compounds	For abrasive blasting at a concentration of greater than 0.1% as cadmium
6	Carbon disulphide (carbon bisulphide)	For spray painting
7	Chromate	For wet abrasive blasting
8	Chromium and its compounds	For abrasive blasting at a concentration of greater than 0.5% (except as specified for wet blasting) as chromium
9	Cobalt and its compounds	For abrasive blasting at a concentration of greater than 0.1% as cobalt
10	Free silica (crystalline silicon dioxide)	For abrasive blasting at a concentration of greater than 1%
11	Lead and compounds	For abrasive blasting at a concentration of greater than 0.1% as lead or which would expose the operator to levels in excess of those set in the WHS regulations covering lead

Column 1 Item	Column 2 Restricted hazardous chemical	Column 3 Restricted use
12	Lead carbonate	For spray painting
13	Methanol (methyl alcohol), if the substance contains more than 1% by volume	For spray painting
14	Nickel and its compounds	For abrasive blasting at a concentration of greater than 0.1% as nickel
15	Nitrates	For wet abrasive blasting
16	Nitrites	For wet abrasive blasting
17	Radioactive substance of any kind where the level of radiation exceeds 1 Bq/g	For abrasive blasting, so far as is reasonably practicable
18	Tetrachloroethane	For spray painting
19	Tetrachloromethane (carbon tetrachloride)	For spray painting
20	Tin and its compounds	For abrasive blasting at a concentration of greater than 0.1% as tin
21	Tributyl tin	For spray painting

Note: Regulation 382 deals with polychlorinated biphenyls (PCBs).

Hazardous chemicals referred to in Column 1 of the following table must not be procured and/or used for the purpose referred to in Column 2.

Hazardous Substance	Prohibited Use
Arsenic or its compounds	Spray painting
Asbestos in the form of Crocidolite, Amosite, Fibrous Anthophyllite, Tremolite or Actinolite	All uses, except for the purpose of sampling or analysis, maintenance, removal, disposal, encapsulation or enclosure
Benzene (benzol), if the substance contains more than 1% by volume	Spray painting
Carbon disulphide (carbon bisulphide)	Spray painting
Methanol (methyl alcohol), if the substance contains more than 1% by volume	Spray painting
Silicon dioxide (free silica) or any substance containing silicon dioxide	An abrasive in abrasive blasting A constituent of steel casting moulds, when sufficient quantities of suitable alternative non-siliceous materials are available A constituent in paints used on the surface of moulds or cores
Tetrachloroethane	Spray painting
Tetrachloromethane (carbon tetrachloride)	Spray painting
Other carcinogenic compounds	All uses

10. Appendix B – Placard and manifest quantities

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	Column 6 ADG Code Classification
1	Flammable gases	Category 1A, category 1B or any combination of categories 1A and 1B	200L	5000L	2.1
2	Gases under pressure	With acute toxicity, categories 1, 2, 3 or 4 Note—Category 4 only up to LC50 of 5000 ppmV	50L	500L	2.3
3		With skin corrosion categories 1A, 1B or 1C	50L	500L	2.3
4		Not specified elsewhere in this table	1000L	10 000L	2.2
5	Aerosols	Category 1, category 2, category 3 or any combination of these categories	5000L	10 000L	2.1 or 2.2
6	Flammable liquids	Category 1	50L	500L	3 (PG I)
7		Category 2	250L	2500L	3 (PG II)
8		Category 3	1000L	10 000L	3 (PG III)
9		Any combination of chemicals from Items 6 to 8 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000L	10 000L	
10		Category 4	10 000L	100 000L	Note 3
11	Self-reactive substances	Type A	5kg or 5L	50kg or 50L	Goods too dangerous to be transported
12		Type B	50kg or 50L	500kg or 500L	4.1 (Type B)
13		Type C to F	250kg or 250L	2500kg or 2500L	4.1 (Type C–F)
14	Flammable solids	Category 1	250kg	2500kg	4.1 (PG II)
15		Category 2	1000kg	10 000kg	4.1 (PG III)

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	Column 6 ADG Code Classification
16		Any combination of chemicals from Items 12 to 15 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
17	Pyrophoric liquids and pyrophoric solids	Category 1	50kg or 50L	500kg or 500L	4.2 (PG I)
18	Self-heating substances and mixtures	Category 1	250kg or 250L	2500kg or 2500L	4.2 (PG II)
19		Category 2	1000kg or 1000L	10 000kg or 10 000L	4.2 (PG III)
20		Any combination of chemicals from Items 17 to 19 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
21	Substances which in contact with water emit flammable gas	Category 1	50kg or 50L	500kg or 500L	4.3 (PG I)
22		Category 2	250kg or 250L	2500kg or 2500L	4.3 (PG II)
23		Category 3	1000kg or 1000L	10 000kg or 10 000L	4.3 (PG III)
24		Any combination of chemicals from Items 21 to 23 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	Column 6 ADG Code Classification
25	Oxidising liquids and oxidising solids	Category 1	50kg or 50L	500kg or 500L	5.1 (PG I)
26		Category 2	250kg or 250L	2500kg or 2500L	5.1 (PG II)
27		Category 3	1000kg or 1000L	10 000kg or 10 000L	5.1 (PG III)
28		Any combination of chemicals from Items 25 to 27 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
29	Organic peroxides	Type A	5kg or 5L	50kg or 50L	Goods too dangerous to be transported
30		Type B	50kg or 50L	500kg or 500L	5.2 (Type B)
31		Type C to F	250kg or 250L	2500kg or 2500L	5.2 (Type C–F)
32		Any combination of chemicals from Items 30 and 31 where none of the items exceeds the quantities in columns 4 or 5 on their own	250kg or 250L	2500kg or 2500L	
33	Acute toxicity	Category 1	50kg or 50L	500kg or 500L	6.1 (PG I)— Note 4
34		Category 2	250kg or 250L	2500kg or 2500L	6.1 (PG II)
35		Category 3	1000kg or 1000L	10 000kg or 10 000L	6.1 (PG III)
36		Any combination of chemicals from Items 33 to 35 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	Column 6 ADG Code Classification
37	Skin corrosion	Category 1A	50kg or 50L	500kg or 500L	8 (PG I)
38		Category 1B	250kg or 250L	2500kg or 2500L	8 (PG II)
39		Category 1C	1000kg or 1000L	10 000kg or 10 000L	8 (PG III)
40	Corrosive to metals	Category 1	1000kg or 1000L	10 000kg or 10 000L	8 (PG III)
41		Any combination of chemicals from Items 37 to 40 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
42	Unstable explosives		5kg or 5L	50kg or 50L	Goods too dangerous to be transported
43	Unstable chemicals	Any combination of chemicals from Items 11, 29 and 42 where none of the items exceeds the quantities in columns 4 or 5 on their own	5kg or 5L	50kg or 50L	

11. Appendix C – Hazardous Chemicals Classification and Storage

 **Class 1.1** – Explosives ** is for division and compatibility group (Orange background)	 **Class 1.4** – Explosives which are not a significant mass explosion hazard e.g. flares, fireworks, safety cartridges, etc. * is for compatibility group (Orange background)
 **Class 1.5** – Explosives with a mass explosion hazard, but are insensitive substances. (Orange background)	 **Class 1.6** – Substances which are a minor explosion hazard, very insensitive substances. (Orange background)
 **Class 2.1** – Gases that can ignite in air on contact with a source of ignition. (Red background)	 **Class 2.2** – Gases that are non-flammable but may cause asphyxiation and/ or represent stored energy hazard. (Green background)
 **Class 2.3** – Gases likely to cause death or serious injury to human health if exposed or by skin contact. (White background)	 **Class 3** –Liquids, the vapours of which can ignite in air on contact with a source of ignition. (Red background)
 **Class 4.1** – Solids easily ignited e.g. by sparks or flames, or liable to cause fire through friction. (Red and white stripe background)	 **Class 4.2** – Substances liable to spontaneously heat up and ignite. (Red background to lower half)

	**Class 4.3** – Substance which emits flammable or toxic gases when wet. (Blue background)
	**Class 5.1** - Substance likely to increase the risk and intensity of fire in other materials (yellow background)
	**Class 5.2** - Substances that are thermally unstable and likely to react dangerously with other substances. (Yellow background)
	**Class 6.1** – Toxic substances likely to cause death or severe injury to human or animal health if swallowed, inhaled or by skin contact. (White background)
	**Class 6.2** - Infectious substances liable to cause death or severe injury to human or animal health if swallowed, inhaled or by skin contact. (White background)
	**Class 7** – Substances (solid or liquid) which spontaneously emit ionising radiation. Category I, determined by radiation level of transport package. (Lowest level) (White background)
	**Class 7** - Substances (solid or liquid) which spontaneously emit ionising radiation. Category II determined by radiation level of transport package. (Yellow background to upper half)
	**Class 7** – Substances (solid or liquid) which spontaneously emit ionising radiation. Category III determined by radiation level of transport package. (Yellow background to upper half)
	**Class 8** – Solids or liquids able to cause, to varying severity, damage to living tissue. Maybe either acidic or caustic in nature. (Black and white)
	**Class 9** – Substances and articles which during transport present a danger not covered by other classes. (White background)

Indication of Compatibility Based on Class of Hazardous Chemicals

Class	2.1	2.2	3	4.1	4.2	4.3	5.1	5.2	6	8
2.1										
2.2										
3										
4.1										
4.2										
4.3										
5.1										
5.2										
6										
8										

Key

SEPARATE	Hazardous Chemicals of these two classes should be kept apart by at least three metres or other suitable control measures. **Consult Safety Data Sheet or supplier**
SEGREGATE	Hazardous Chemicals of these two classes are likely to interact with each other in such a way as to significantly increase risk and should not be kept in the same area unless it can be demonstrated that the risks can be fully controlled. **Consult SDS for further guidance**.
ISOLATE	Dedicated stores or storage cabinets are recommended. Adequate separation from other buildings and boundaries is required. **Consult SDS for further guidance**.
REFERS TO SDS	Segregation of these two classes may be necessary. Refer to the SDS for further guidance. **All Class 9 Hazardous Chemicals should be segregated in accordance with the SDS.**
OK	Hazardous Chemicals of the same class have similar primary hazards and are usually considered compatible. **Consult with the SDS or supplier about requirements for individual substances**.

12. Appendix D – Fire Extinguisher Guide

TYPE OF EXTINGUISHER (Colour scheme - AS 1841.1) Pre 1997 / Post 1997	A Wood, Paper & Plastic	B Flammable & Combustible Liquids	C Flammable Gasses	E Energised Electrical Equipment	F Cooking Oils & Fats	NOTES: *Limited indicates that the extinguishant is not the agent of choice for the class of fire, but that it will have limited extinguishing capability. **Australian Standard AS 2444** provides more advice in selecting an extinguisher.
Powder ABE	✓	✓	✓	✓	✗	General purpose extinguisher.
Powder BE	✗	✓	✓	✓	✓	Special Powders suitable where Class A fires are not the major risk.
Carbon Dioxide (CO_2)	LIMITED	LIMITED	✗	✓	✗	Generally not suitable for outdoor fires. Suitable only for small fires.
Water	✓	✗	✗	✗	✗	Dangerous if used on flammable liquid, energised electrical equipment and cooking oil/fat fires.
Foam	✓	✓	✗	✗	LIMITED	Dangerous if used on energized electrical equipment.
Wet Chemical	✓	✗	✗	✗	✓	Dangerous if used on energized electrical equipment.
Vaporising Liquid	✓	LIMITED	✗	✓	✗	Specialised for high velued electronic/computer equipment fire risks.
Fire Blanket	✗	✗	✗	✗	✓	Can be wrapped around a human on fire. Ensure you replace the blanket with a new one after use.
Fire Hose Reel	✓	✗	✗	✗	✗	Unlimited water supply for large Class A fires.