

Section 2 USAGE OF THE CHEMICAL/S

	YES	NO
Are any of the chemicals used in pure form ?	<input type="checkbox"/>	<input type="checkbox"/>
Are any of the chemicals used in concentrated form?	<input type="checkbox"/>	<input type="checkbox"/>
Are any chemicals used in diluted form?	<input type="checkbox"/>	<input type="checkbox"/>
Are the health effects different if diluted or concentrated?	<input type="checkbox"/>	<input type="checkbox"/>
Are procedures in place to deal with a minor and major spill?	<input type="checkbox"/>	<input type="checkbox"/>
Are safe decanting and usage procedures in place?	<input type="checkbox"/>	<input type="checkbox"/>
Are safe storage, transport and segregation procedures in place?	<input type="checkbox"/>	<input type="checkbox"/>
Are first aid procedures in place in the event of a minor and major accident?	<input type="checkbox"/>	<input type="checkbox"/>
Are any of the chemicals Regulation 25 controlled substances (Acrolein, Arsenic, Chloropicrin, Inorganic Cyanide, Cyanogen, DDT, Fluoroacetamide Fluoroacetic acid, Hydrocyanic acid, Methyl bromide, Mirex, Sodium fluoroacetate, Strychnine and /or Thallium)-if YES, the substance must be kept in a locked container in the work area and a register of use must be kept	<input type="checkbox"/>	<input type="checkbox"/>
Are any of the chemicals restricted or prohibited carcinogens (Prohibited and Restricted Carcinogens are listed in Tables C1 and C2 in Appendix C of the Code of Practice, <i>Managing Risks of Hazardous Chemicals in the Workplace</i>)? (if using a restricted or prohibited carcinogen, the worker will need to register with the WHS Unit and health surveillance may be required)	<input type="checkbox"/>	<input type="checkbox"/>
Are any of the chemicals energetic materials (explosives)?, if YES, a permit to acquire/possess will be required	<input type="checkbox"/>	<input type="checkbox"/>
Are any of the chemicals radioactive, if YES please ensure all workers handling the substance are registered with the WHS Unit and that a radiation licence is obtained where applicable	<input type="checkbox"/>	<input type="checkbox"/>
Are there any chemicals of security concern (listed in Appendix A of the <i>National Code of Practice for Chemicals of Security Concern</i>)?	<input type="checkbox"/>	<input type="checkbox"/>
Are appropriate record keeping and secure storage facilities in place for controlled substances, chemicals of security concern, energetic or radioactive materials?	<input type="checkbox"/>	<input type="checkbox"/>

	YES	NO
Is specific training required for the use of any chemical (Eg inorganic cyanide, HF, cytotoxics, radioactive materials etc.), if YES, ensure training is conducted before the use of the chemical	<input type="checkbox"/>	<input type="checkbox"/>
Does any chemical have a Chemwatch Hazard Rating of 4 for toxicity, reactivity or chronic , if YES, as a minimum ensure all controls listed in “recommended in SDS” in section 5 are implemented prior to use.	<input type="checkbox"/>	<input type="checkbox"/>
Is any chemical a dry nanomaterial, if YES, ensure all controls listed in “recommended in SDS” in section 5 are implemented prior to use	<input type="checkbox"/>	<input type="checkbox"/>

Section 3 IDENTIFICATION AND ANALYSIS OF THE HAZARDS

OBTAIN INFORMATION ON THE CHEMICAL/S TO BE ASSESSED AND IDENTIFY AND ANALYSE THE HAZARDS AND HEALTH EFFECTS

What types of hazards are associated and what health effects may the chemicals cause?

- | | | |
|--|---------------------------------------|--|
| <input type="checkbox"/> Irritant | <input type="checkbox"/> Carcinogenic | <input type="checkbox"/> Explosive |
| <input type="checkbox"/> Corrosive | <input type="checkbox"/> Mutagenic | <input type="checkbox"/> Flammable |
| <input type="checkbox"/> Sensitising agent | <input type="checkbox"/> Teratogenic | <input type="checkbox"/> Spontaneous reactivity |
| <input type="checkbox"/> Asphyxiant | <input type="checkbox"/> Cytotoxic | <input type="checkbox"/> Water reactivity |
| <input type="checkbox"/> Toxic | | <input type="checkbox"/> Oxidiser |
| | | <input type="checkbox"/> Cryogenic |
| | | <input type="checkbox"/> Other dangerous reactions |

If the chemical is toxic-what is the site of the toxic action? (refer SDS-Toxicological Information)

- | | | |
|---|---|---|
| <input type="checkbox"/> Local (one area) | <input type="checkbox"/> Systemic (multiple organs/systems) | <input type="checkbox"/> Local & systemic |
|---|---|---|

If systemic, what are the target organs?

- | | |
|----------------------------------|---|
| <input type="checkbox"/> Liver | <input type="checkbox"/> Blood forming tissues |
| <input type="checkbox"/> Kidneys | <input type="checkbox"/> Central nervous system (CNS) |
| <input type="checkbox"/> Lungs | <input type="checkbox"/> Cardiovascular system (CVS) |
| <input type="checkbox"/> Blood | |

What type of toxic effects does the substance/s have?

- | | | |
|--|--|--|
| <input type="checkbox"/> Acute (immediate) | <input type="checkbox"/> Chronic (long-term) | <input type="checkbox"/> Acute & chronic |
|--|--|--|

What are the potential routes of exposure?

- | | | |
|-------------------------------------|--|------------------------------------|
| Inhalation <input type="checkbox"/> | Skin absorption <input type="checkbox"/> | Injection <input type="checkbox"/> |
| Ingestion <input type="checkbox"/> | Eye <input type="checkbox"/> | Other <input type="checkbox"/> |

**Section 4 ASSESSING THE
DEGREE OF EXPOSURE TO THE CHEMICAL/S**

EVALUATE THE DEGREE OF EXPOSURE

It is wise to limit your exposure to any hazardous chemical by keeping the amount of chemical used and the duration of exposure to a minimum. The following section determines the amount of chemical that will be used over a certain time period and a value estimating the exposure from low to high is then calculated

AMOUNT OF CHEMICAL USED

- | | |
|--|--|
| <p>VOLUME QUANTITY</p> <p><input type="checkbox"/> 0-9 ml: 0-9g</p> <p><input type="checkbox"/> 10-49 ml: 10-49g</p> <p><input type="checkbox"/> 50-99 ml: 50-99g</p> <p><input type="checkbox"/> 100-999 ml: 100g-999g</p> | <p>VOLUME QUANTITY</p> <p><input type="checkbox"/> 1-4 litres: 1kg-4kg</p> <p><input type="checkbox"/> 5-10 litres: 5kg-10kg</p> <p><input type="checkbox"/> >10 litres:>10kg</p> |
|--|--|

CALCULATE PERCENTAGE OF EXPOSURE VALUE TO ABOVE AMOUNT

NUMBER OF TIMES; how frequently would employees or others be exposed to the substance/s?

- | | |
|--------------------------------------|---|
| <input type="checkbox"/> once | <input type="checkbox"/> seven times |
| <input type="checkbox"/> twice | <input type="checkbox"/> eight times |
| <input type="checkbox"/> three times | <input type="checkbox"/> nine times |
| <input type="checkbox"/> four times | <input type="checkbox"/> ten times |
| <input type="checkbox"/> five times | <input type="checkbox"/> eleven times |
| <input type="checkbox"/> six times | <input type="checkbox"/> twelve times |
| | <input type="checkbox"/> specify if greater than twelve |

DURATION: what is the expected duration of each exposure to the substance/s in hours?

TIME PERIOD; amount of time employees or others will be exposed to the substance/s if used daily, weekly, monthly or yearly (daily use is assumed to be 8 working hrs).

- (8 hours)- if substance/s used daily
- (40 hours)- if substance/s used weekly
- (160 hours)- if substance/s used monthly
- (1920 hours)- if substance/s used yearly

Complete the equation below depending on what you answered for the **TIME PERIOD** above.

$$\frac{\text{NUMBER OF TIMES} \times \text{DURATION (in hours)} \times 100}{\text{TIME PERIOD (in hours)}} = \% \text{ of Exposure (in hours)}$$

If used daily: $\frac{\quad \times \quad \times 100}{8} = \quad \%$

If used weekly: $\frac{\quad \times \quad \times 100}{40} = \quad \%$

If used monthly: $\frac{\quad \times \quad \times 100}{160} = \quad \%$

If used yearly: $\frac{\quad \times \quad \times 100}{1920} = \quad \%$

Tick the box that corresponds to the percentage of exposure value calculated above:

- (1) Low: <20%
- (2) Moderate: 20-60%
- (3) High: >60%

Section 5 CONTROL MEASURE ANALYSIS

Considering the task/procedure, nature and usage of substance/s, potential adverse health effects and degree of exposure, determine what control measures must be implemented to minimize the risk of harm to health and safety.

NOTE: when considering control measures to minimize the risk of harm, use the Hierarchy of Controls below as a guide and consider using all controls recommended in the SDS for all substances

HIERARCHY OF CONTROLS

ELIMINATE:- remove the substance from the task/procedure entirely

SUBSTITUTE:- replace a harmful substance with a less harmful one or minimize the quantities

ISOLATE:- separate personnel from the process by distance or barriers

ENGINEERING:- use machinery, equipment or processes to minimize workplace contamination

ADMINISTRATION:- use policies, procedures, instructions or signage

PERSONAL PROTECTIVE EQUIPMENT:- provide and wear equipment/clothing to provide protection

	ALREADY IN WORK AREA	RECOMMENDED IN SDS
Air conditioning	<input type="checkbox"/>	<input type="checkbox"/>
Extraction fans	<input type="checkbox"/>	<input type="checkbox"/>
Exhaust ventilation systems	<input type="checkbox"/>	<input type="checkbox"/>
Fume cupboards	<input type="checkbox"/>	<input type="checkbox"/>
Enclosures to reduce dusts or fumes	<input type="checkbox"/>	<input type="checkbox"/>
Engineering controls	<input type="checkbox"/>	<input type="checkbox"/>
e.g. isolation of the process	<input type="checkbox"/>	<input type="checkbox"/>
Enclosure of the process	<input type="checkbox"/>	<input type="checkbox"/>
Containers to reduce solvent evaporation	<input type="checkbox"/>	<input type="checkbox"/>
Written safe work/handling procedures	<input type="checkbox"/>	<input type="checkbox"/>
Written emergency procedures	<input type="checkbox"/>	<input type="checkbox"/>
Training of workers in these procedures	<input type="checkbox"/>	<input type="checkbox"/>
Good housekeeping practices	<input type="checkbox"/>	<input type="checkbox"/>
Good personal hygiene practices	<input type="checkbox"/>	<input type="checkbox"/>
Personal protective equipment (PPE)	<input type="checkbox"/>	<input type="checkbox"/>
Respirator e.g dust mask (Refer to AS 1715 and 1716)	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • Specify type • Filter cartridge detail type • Filter cartridge detail life 		
Eye protection e.g goggles (Refer to AS 1336 and 1337)	<input type="checkbox"/>	<input type="checkbox"/>
Hearing protection devices e.g soft plugs, hard plugs, ear muffs (Refer to AS 1269 and 1270)	<input type="checkbox"/>	<input type="checkbox"/>
Gloves (Refer to AS 2161, 4011 and 4179)	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • Long • Short • State type, eg.Nitrile, Rubber 	<input type="checkbox"/>	<input type="checkbox"/>
Other protective clothing (Refer to SAA HB9)	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • Lab coat • Apron • Polypropylene overalls • 	<input type="checkbox"/>	<input type="checkbox"/>

other specify:

Section 6 ASSESSING THE CURRENT RISKS

Considering the task/procedure, nature and usage of substance/s, potential adverse health effects, likelihood and degree of exposure and current control measures implemented, assess the risk of harm to health and safety,

Use the CONSEQUENCE/PROBABILITY matrix below to produce the maximum risk score from Low to Extreme.

Very Likely	Will probably occur immediately or within a short period of time	Fatality	May cause death or loss of facility
Likely	Will probably occur in time	Major	Severe injury or illness or major property damage
Possible	Could happen occasionally	Minor	Injury or illness requiring days off work or minor property damage
Unlikely	Could eventually happen (rare)	First Aid	First aid level treatment
Highly unlikely	Has potential to occur, but probably never will	Negligible	No medical treatment

Consequence	Likelihood				
	Very likely	Likely	Possible	Unlikely	Highly unlikely
Fatality	Extreme	High	High	High	Medium
Majorinjury	High	High	High	Medium	Medium
Minorinjury	High	Medium	Medium	Medium	Medium
Firstaid	Medium	Medium	Medium	Low	Low
Negligible	Medium	Medium	Low	Low	Low

MAXIMUM RISK SCORE (if above Medium-review Sections 4 and 5)

If Low or Low/Medium, the risk assessment is complete

This assessment is to be reviewed immediately if any of the following occur:

- Exposure standard is revised
- Control measures are modified
- Monitoring or surveillance
- There is a significant change in the process
- New information becomes available
- Work related illness, accident or incidents indicate a loss of control

Completion of this documented process by the person responsible for the work is prerequisite for continuation of the project. A hard copy of this document must be stored for five years, or until replaced by revised document.

To sign this document using Adobe Acrobat Pro DC, select Tools>Certificates and click Digitally Sign (from the top ribbon). Follow the instructions and save as a new document-repeat the process for additional signatures.

If signed document cannot be edited-select File>Save-As and save with a new filename.

ASSESSOR: I		confirm that I have endeavoured to complete this risk assessment in a conscientious and diligent manner.
SIGNATURE:		DATE:
SUPERVISOR: I		confirm that this risk assessment accurately represents the subject activity / process.
SIGNATURE:		DATE: