Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name	:	**Acetone**
Recommended Uses	:	Industrial Solvent.Restricted to professional users.
Other names	:	Dimethyl Ketone ACETONE
Product Code	:	S1212, U8903, S1260
Supplier	:	Auschem (NSW) Pty Ltd 91 Newton Road Wetherill Park 2164 P.O. Box 6309 Wetherill Park 2164 NSW Australia ABN: 32 084 260 159
Telephone	:	Tel +61 2 97565559
Fax	:	Fax +61 2 97565558
Local Contact		
Telephone	:	(02) 9756-5559
Fax	:	(02) 9756-5558
Emergency Telephone Number	:	+61 413339787 +61 412620120

2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
Classified as hazardous according to the criteria of NOHSC, and as Dangerous Goods according to the Australian Dangerous Goods Code.

Symbol(s)	:	F Highly flammable. Xi Irritant.
R-phrase(s)	:	R11 Highly flammable. R36 Irritating to eyes. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.
S-phrase(s)	:	S9 Keep container in a well-ventilated place. S16 Keep away from sources of ignition - No smoking. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 2 Keep out of the reach of children.
Health Hazards	:	Vapours may cause drowsiness and dizziness. Repeated exposure may cause skin dryness or cracking. Irritating to eyes. Harmful: may cause lung damage if swallowed.
Signs and Symptoms	:	Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance. Eye irritation signs and symptoms may include a burning sensation,

redness, swelling, and/or blurred vision. Lung damage (scarring, bronchitis, emphysema) may be indicated by shortness of breath, especially on exertion, and may be accompanied by a chronic cough.

Safety Hazards : Highly flammable.
SUSDP Schedule : 5

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material Formal Name : Propan-2-one
CAS No. : 67-64-1
INDEX No. : 606-001-00-8
EINECS No. : 200-662-2

Additional Information : Refer to chapter 16 for full text of EC R-phrases.

4. FIRST AID MEASURES

General Information : Not expected to be a health hazard when used under normal conditions.

Inhalation : Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin Contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.

Eye Contact : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

Ingestion : DO NOT DELAY. Do not induce vomiting. If victim is alert, rinse mouth and drink 1/2 to 1 glass of water to help dilute the material. Do not give liquids to a drowsy, convulsing, or unconscious person. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Advice to Physician : Potential for chemical pneumonitis. Consider: gastric lavage with protected airway, administration of activated charcoal.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards : Containers exposed to intense heat from fires should be cooled with large quantities of water. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Extinguishing Media : Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Protective Equipment for Firefighters : Wear full protective clothing and self-contained breathing apparatus. Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined

space.

Additional Advice	:	All storage areas should be provided with adequate fire fighting facilities. Keep adjacent containers cool by spraying with water.
Hazchem Code	:	2[Y]E - For fire fighting, use water fog, or in the absence of fog a fine mist may be used. Risk of explosion. Breathing apparatus, firefighting gear and chemically impervious protective gloves should be worn. Prevent spillage from entering drains or watercourses. Evacuation of people from the neighbourhood of an incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

Protective measures	:	Handling equipment must be bonded and grounded (earthed) to prevent sparking. Extinguish any naked flames. Do Not smoke. Remove ignition sources. Avoid sparks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Clean Up Methods	:	Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly. Remove with explosion-proof vacuum trucks or pump to storage/salvage vessels.
Additional Advice	:	Local authorities should be advised if significant spillages cannot be contained. Proper disposal should be evaluated based on regulatory status of this material (refer to Section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

7. HANDLING AND STORAGE

General Precautions	:	Extinguish any naked flames. Do Not smoke. Remove ignition sources. Avoid sparks. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Handling	:	Avoid breathing of or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge.
Storage	:	Cleaning, inspection and maintenance of storage tanks is a specialist operation which requires the implementation of strict procedures and precautions. Keep away from flammables, oxidizing agents, and corrosives. The vapour is heavier than air. Beware of accumulation in pits and confined spaces.
Product Transfer	:	Ensure electrical continuity by bonding and grounding

(earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge.

Recommended Materials : For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint.

Additional Information : Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Acetone	AU OEL	TWA	500 ppm	1,185 mg/m3	
	AU OEL	STEL	1,000 ppm	2,375 mg/m3	

Biological Exposure Index (BEI) - See reference for full details

Material	Determinant	Sampling time	BEI	Reference
Acetone	Acetone in urine	End of shift	50 mg/l	ACGIH (2003)

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Eye washes and showers for emergency use. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Exhaust emission systems should be designed in accordance with local conditions; the air should always be moved away from the source of vapour generation and the person working at this point. Provide adequate ventilation in storage areas.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point <65°C (149°F)] meeting EN371. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Hand Protection : Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from

		glove suppliers. Contaminated gloves should be replaced. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: Nitrile rubber. PVC. Viton.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Use protective clothing which is chemical resistant to this material. Safety shoes and boots should also be chemical resistant.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of analytical Methods http://www.cdc.gov/niosh/nmam/nmammenu.html Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha-slc.gov/dts/sltc/methods/toc.html Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hsl.gov.uk/search.htm
Environmental Exposure Controls	:	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Eye washes and showers for emergency use. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Exhaust emission systems should be designed in accordance with local conditions; the air should always be moved away from the source of vapour generation and the person working at this point. Firewater monitors and deluge systems are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear Liquid
Odour	:	Characteristic
pH	:	Not applicable.
Boiling point	:	-95 °C / -139 °F
Melting / freezing point	:	-94 °C / -137 °F
Flash point	:	-18 °C / 0 °F(IP 170)
Explosion / Flammability limits in air	:	ca. 2.1 - 13 %(V)
Auto-ignition temperature	:	540 °C / 1,004 °F(ASTM D-2155)
Vapour pressure	:	24.7 kPa at 20 °C / 68 °F
Specific gravity	:	Data not available.
Density	:	790 - 792 kg/m3 at 20 °C / 68 °F(ASTM D-4052)
Water solubility	:	at 20 °C / 68 °FCompletely miscible.
Solubility in other	:	Data not available.

solvents

n-octanol/water partition coefficient (log Pow)	:	0.2
Dynamic viscosity	:	0.33 mPa.s at 20 °C / 68 °F
Vapour density (air=1)	:	2 at 20 °C / 68 °F
Electrical conductivity	:	20 µS/m at 20 °C / 68 °F(ASTM D-4308)
Coefficient of expansion	:	0.0014 / °C
Dielectric constant	:	21.4 at 20 °C / 68 °F
Heat of vapourisation	:	525 kJ/kg °C
Refractive index	:	1.359 at 20 °C / 68 °F(ASTM D-1218)
Specific heat	:	2.14 kJ/kg °C at 20 °C / 68 °F
Saturated Vapour concentration (in air)	:	590 g/m3 at 20 °C / 68 °F(estimated value(s))
Thermal conductivity	:	0.16 W/m °C at 20 °C / 68 °F
Volatile organic carbon content	:	62 % (EC/1999/13)
Evaporation rate (nBuAc=1)	:	5.6 (ASTM D 3539, nBuAc=1) 2 (DIN 53170, di-ethyl ether=1)
Surface tension	:	22.8 mN/m at 20 °C / 68 °F
Molecular weight	:	58.08 g/mol

10. STABILITY AND REACTIVITY

Stability	:	Stable under normal conditions of use.
Conditions to Avoid	:	Avoid heat, sparks, open flames and other ignition sources.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	None expected under normal use conditions.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on product testing.
Acute Oral Toxicity	:	Low toxicity: LD50 >2000 mg/kg , Rat Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Acute Dermal Toxicity	:	Low toxicity: LD50 >2000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Low toxicity: LC50 >20 mg/l / 4 hours, Rat High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Skin Irritation	:	Not irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Eye Irritation	:	Irritating to eyes.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Low systemic toxicity on repeated exposure.
Mutagenicity	:	Not mutagenic.
Carcinogenicity	:	Not expected to be carcinogenic.
Reproductive and Developmental Toxicity	:	Not expected to impair fertility.

Additional Information : Exposure may enhance the toxicity of other materials

12. ECOLOGICAL INFORMATION

Acute Toxicity

Fish	:	Low toxicity: LC/EC/IC50 > 1000 mg/l
Aquatic Invertebrates	:	Low toxicity: LC/EC/IC50 > 1000 mg/l
Algae	:	Low toxicity: LC/EC/IC50 > 1000 mg/l
Microorganisms	:	Low toxicity: LC/EC/IC50 > 1000 mg/l
Mobility	:	If product enters soil, it will be mobile and may contaminate groundwater. Dissolves in water.
Persistence/degradability	:	Readily biodegradable.
Bioaccumulation	:	Not expected to bioaccumulate significantly.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Container Disposal	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
Local Legislation	:	Local regulations may be more stringent than regional or national requirements and must be complied with.

14. TRANSPORT INFORMATION

ADG

UN number	1090
Proper shipping name	ACETONE
Class	3
Packing group	II
Hazchem Code	2[Y]E

IMDG

Identification number	UN 1090
Proper shipping name	ACETONE
Class / Division	3
Packing group	II
Marine pollutant:	No

IATA (Country variations may apply)

UN No.	:	1090
Proper shipping name	:	Acetone
Class / Division	:	3
Packing group	:	II

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

SUSDP Schedule	:	5	
AICS	:	Listed.	
DSL	:	Listed.	
INV (CN)	:	Listed.	
ENCS (JP)	:	Listed.	(2)-542
TSCA	:	Listed.	
EINECS	:	Listed.	200-662-2
KECI (KR)	:	Listed.	KE-29367
PICCS (PH)	:	Listed.	

16. OTHER INFORMATION

R-phrase(s)

R11	Highly flammable.
R36	Irritating to eyes.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

MSDS Version Number	:	1.
MSDS Effective Date	:	15.12.2003
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