

# MATERIAL SAFETY DATA SHEET

## Acetone

### SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** Acetone  
**Other Names:** 2-Propanone; Dimethyl Ketone  
**Recommended Use:** General purpose solvent  
**Supplier:** CSR Distilleries Operations Pty Ltd  
**ABN:** 85 009 660 191  
**Address:** 265 Whitehall Street  
Yarraville VIC 3013  
Australia  
**Telephone:** 1800 819 618 (available in Australia only)  
**Facsimile:** 1800 647 260 (available in Australia only)  
**Emergency Phone:** 000 Fire Brigade and Police (available in Australia only).  
**Important Notice:** This Material Safety Data Sheet (MSDS) is issued by the Supplier in accordance with the National Occupational Health and Safety Commission (NOHSC) Code of Practice. As such, information in it must not be altered, deleted or added to. The Supplier will issue a new MSDS when there is a change in product specifications, and/or regulatory requirements. The Supplier will not accept any responsibility for any changes made to its MSDS by any other persons or organisations.

### SECTION 2: HAZARDS IDENTIFICATION

## HAZARDOUS – DANGEROUS GOOD

**Risk Phrases:**

**R11** Highly Flammable  
**R20/22** Harmful by inhalation and if swallowed  
**R66** Repeated exposure may cause skin dryness and cracking  
**R67** Vapours may cause drowsiness and dizziness  
**R36/37** Irritant to eyes and respiratory system

**Safety Phrases:**

**S2** Keep out of reach of children  
**S7/9** Keep container tightly closed and in a well ventilated place  
**S16** Keep away from sources of ignition – no smoking  
**S23** Do not breathe vapour  
**S29** Do not empty into drains

### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Proportion	CAS Number
Acetone	100%	67-64-1

This material is listed on the Australian Inventory of Chemical Substances (AICS)

## SECTION 4: FIRST AID MEASURES

**Swallowed:** If a minor amount has been accidentally swallowed, then, if conscious, give large amounts of water. Do not allow further work until fitness for duties is established. Do not attempt to induce vomiting or give anything by mouth to an unconscious person. Seek medical attention. If there are signs of drunkenness (intoxication or inebriation) then serious health effects may follow (depending on the amount swallowed or inhaled). Treat unconsciousness by placing the person in the coma position. Apply artificial respiration if breathing stops. Immediate medical attention should be sought and the affected person transferred and accompanied to the care of a doctor or hospital.

**Eye:** Flush eye with running water for a minimum of 15 minutes. Seek medical attention promptly if irritation persists or any loss of vision occurs.

**Skin:** Immediately remove contaminated clothing. Wash skin with water. Launder contaminated clothing before re-use.

**Inhaled:** Remove promptly to fresh air. If there are signs of drunkenness (intoxication or inebriation) or respiratory irritation, dizziness, nausea or headache occurs, seek immediate medical attention. Treat unconsciousness by placing the person in the coma position. Apply artificial respiration if breathing stops. Immediate medical attention should be sought and the affected person transferred and accompanied to the care of a doctor or hospital.

**Notes to doctor:** Treat symptomatically and as for narcotic substance.

## SECTION 5: FIRE FIGHTING MEASURES

### Specific Hazards:

Highly flammable liquid. May form flammable mixtures with air. The vapour is heavier than air and may travel along the ground; distant ignition and flash back are possible. Run off to sewers and drains may cause explosions. Isolate for at least 800 metres in all directions if tanks or tankers are involved. The use of compressed air for filling, discharging, mixing or handling is prohibited due to the vapour hazard. All vessels must be earthed to avoid generation of static charges when agitating or transferring. Avoid all ignition sources. Intrinsically safe equipment is necessary in areas where this chemical is being used.

### Extinguishing Media:

Use water fog (or if unavailable fine water spray), dry chemical, carbon dioxide or alcohol stable foam.

### Fire Fighting Procedures:

Use water to cool exposed containers. Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire. Spills and leaks may be washed away with copious volumes of water, fog or spray. For major fires or where the atmosphere is either oxygen deficient or contains unacceptable levels of combustion products, fire-fighters must wear self-contained breathing apparatus with full face-mask and protective clothing.

### Hazardous Decomposition Products:

Burning can produce carbon monoxide and/or carbon dioxide.

## SECTION 6: ACCIDENTAL SPILL & RELEASE MEASURES

### Containment Procedures:

In the event of a spillage eliminate all sources of ignition and take measures to prevent static discharge – no smoking. Stop and contain the spill for salvage or absorb in inert absorbent material (e.g soil, sand, vermiculite) for disposal by an approved method in accordance with regulatory guidelines. Prevent run-off into waterways and drains. Clear area of all personnel not directly involved in the clean up. All personnel involved in the containment and disposal procedures to wear protective equipment as described in Section 8 to prevent skin and eye contamination and inhalation of vapours. Use water spray to disperse vapour. Wash the cleaned up area with copious volumes of water to remove any trace amounts of product. Ventilate area well and ensure the atmosphere is safe before personnel return to the work area. If contamination of the waterways has occurred, advise the local emergency services, and waste and environmental authorities.

## SECTION 7: HANDLING & STORAGE

### Handling:

Use in well ventilated areas away from all ignition sources. Intrinsically safe equipment only must be used in areas where this chemical is being used. The use of compressed air for filling, discharging, mixing or handling is prohibited due to the vapour hazard. Containers must be earthed to avoid generation of static charges when agitating or transferring product.

### Storage:

Store in tightly closed containers in cool, dry, isolated and well ventilated areas away from heat, sources of ignition and incompatibles. Store away from oxidising agents. Keep containers closed at all times – check regularly for leaks. Do not eat, drink or smoke in areas of use or storage. Observe State Regulations concerning the storage and handling of Dangerous Goods. Store with all precautions required for handling Flammable Liquids. The requirement of Australian Standards AS 1940 should be observed in addition to AS 1020, AS 1076, AS2380 and AS 3000.

### Incompatibilities:

Not to be stored with explosives (Class 1), flammable gases in bulk (Class 2.1), Poisonous gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7). Exemptions may apply.

## SECTION 8: EXPOSURE CONTROL & PERSONAL PROTECTION

### Exposure Standards:

National Occupational Health & Safety Commission (NOHSC) Australia occupational exposure standard (NES)

Acetone	TWA – 500ppm (1185 mg/m <sup>3</sup> )
	STEL – 1000ppm (2375 mg/m <sup>3</sup> )
	Carcinogen Category – None Allocated
	Notices – None Allocated

NES (TWA) is the time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over a working lifetime. According to current knowledge, exposures at or below the NES should neither impair the health or, cause undue discomfort to, nearly all workers.

NES are guides to be used in the control of occupational health hazards. In addition, the NES requires that exposures should be kept to as low a level as is workable. NES should not be used as fine dividing lines between safe and dangerous concentrations of chemicals.

### Ventilation:

Local exhaust ventilation and/or mechanical (general) exhaust is recommended where vapours are likely to be generated. All such equipment must be intrinsically safe.

### Special Considerations for Repair And/Or Maintenance of Contaminated Equipment:

Empty containers retain residue (liquid and/or vapour) and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Vapour is heavier than air – prevent concentration in hollows or sumps. Do not enter confined spaces where vapour may have collected. Keep containers closed when not in use.

### Personal Hygiene:

Protective clothing (gloves, coveralls, boots, etc.) should be worn to prevent skin contact. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

### Eye Protection:

Avoid eye contact by wearing chemical goggles with side shields or face shield (AS/NZS 1336) whenever exposed to vapour or mist or if there is a risk of splashing liquid in the eyes. Safety showers with eye-wash should be provided in all areas where product is handled.

### Skin Protection:

Avoid skin contact by the use of approved chemical resistant gloves and aprons – PVC or Neoprene (AS 2161).

### Respiratory Protection:

None should be needed under normal circumstances. In high vapour concentrations, or in suspected oxygen deficient atmospheres, such as empty vessels or confined spaces, use air supplied hood. In other instances where acetone vapour concentrations are likely to exceed 250ppm, an approved organic vapour respirator (AS/NZS 1715 and 1716) must be worn.

**Smoking and Other Dusts:**

Smoking must be prohibited in all areas where acetone is used – See safety information on flammability.

### SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear, colourless liquid
<b>Odour:</b>	Pleasant, sweet, ketone-type odour
<b>pH, at stated concentration:</b>	Not applicable
<b>Boiling Point: (°C)</b>	56.2°C
<b>Melting Point: (°C)</b>	-94°C
<b>Vapour pressure:</b>	181 mm Hg @ 20°C
<b>Specific gravity (H<sub>2</sub>O = 1)</b>	0.791 @ 20°C/20°C
<b>Solubility in water:</b>	Miscible
<b>Evaporation Rate:</b>	7.0 (n-Butyl Acetate = 1.0)
<b>Vapour Density:</b>	2.0 (Air = 1)
<b>Per cent volatiles:</b>	100%
<b>Molecular weight:</b>	58.08
<b>Flash Point:</b>	-18°C
<b>FP Test Method:</b>	Not applicable
<b>Autoignition Temperature:</b>	465°C
<b>Lower Explosive Limit (LEL):</b>	2.15% (2.6%)
<b>Upper Explosive Limit (UEL):</b>	13%

### SECTION 10: STABILITY & REACTIVITY

<b>Chemical Stability:</b>	Stable
<b>Hazardous Polymerisation:</b>	Will not occur
<b>Incompatible Materials:</b>	Will react with strong oxidizing agents
<b>Conditions to avoid:</b>	Heat, sparks, flame and build-up of static electricity
<b>Hazardous Decomposition products:</b>	Burning can produce carbon dioxide and water; incomplete combustion can produce carbon monoxide

### SECTION 11: TOXICOLOGICAL & EPIDEMIOLOGICAL DATA

**Acute Effects:**

Oral rat LD50: 5800 mg/kg;  
Inhalation rat LC50: 50,100mg/m<sup>3</sup>/8hr.

**Swallowed:**

Accidental swallowing is unlikely in the industrial setting. Swallowing can cause drunkenness or harmful central nervous system effects. Effects of a small intake may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, and fatigue. Drinking a large amount may lead to acute intoxication, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death. Aspiration into lungs may cause pneumonitis.

**Eye:**

Vapours may irritate the eyes. Liquid and mists may severely irritate or damage the eyes.

**Skin:**

Contact with skin may result in irritation and redness. Prolonged or repeated contact and heavy skin contamination may cause skin drying and cracking and/or dermatitis with redness, itching, and swelling. This may lead to possible secondary infection.

**Inhaled:**

Vapour is moderately irritating to mucous membranes and respiratory tract. Inhalation of the vapour may result in drunkenness, (see effects of swallowing above) or headache, nausea, in-coordination, narcosis (sleepiness) and vomiting. Early signs or symptoms may occur at airborne levels of 1000 to 5000ppm.

**Chronic: Long Term Effects:**

Ongoing or repeated exposures at high concentrations may cause central nervous symptoms similar to "swallowed" above. Deliberate inhalation of the vapour (sniffing) is a known risk.

Long term exposure by swallowing or repeated inhalation, may cause degenerative changes in the liver and other organs. Exposure to acetone in the work setting may add to any health effects caused by intake of alcoholic drinks, particularly in regard to narcotic and liver effects.

Acetone is not regarded as being carcinogenic and is not listed by NOHSC as a carcinogen or mutagen.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:**

Toxicity to fish (acute): Blugil sunfish: LC50 8300ppm\96h

Toxicity to daphnia magna: LC50 10ppm\48 hours

**Persistence and degradability:**

Evaluation: Product is volatile and biodegradable

**Mobility in soil:**

Because of its volatility, this product is not regarded as creating longer term ecological risks.

## SECTION 13: DISPOSAL CONSIDERATIONS

Product must be contained and not disposed to sewerage systems, drains or waterways. Advise flammable nature. Dispose of all waste containers and used drums in accordance with local authority guidelines. Empty containers must be decontaminated by rinsing with water. Non-returnable containers should be de-gassed prior to disposal. Suitable for incineration by approved agent under controlled conditions if permitted by local authorities, otherwise disposal must be in accordance with local waste and environmental authority requirements.

## SECTION 14: TRANSPORTATION INFORMATION

**Transport Requirements:**

<b>UN number:</b>	1090
<b>Class:</b>	3
<b>Subsidiary Risk:</b>	None Allocated
<b>Packaging Group:</b>	II
<b>Hazchem code:</b>	2[Y]E
<b>EPG Incompatibilities:</b>	Not to be stored with explosives (Class 1), flammable gases in bulk (Class 2.1), poisonous gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidizing agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7). Exemptions may apply.

**Road and Rail Transport (Australian Dangerous Goods Code):**

<b>UN number:</b>	1090
<b>Proper Shipping Name:</b>	ACETONE
<b>Class:</b>	3
<b>Packing Group:</b>	II
<b>Hazchem Code:</b>	2[Y]E

**Marine Transport (International Maritime Dangerous Goods Code):**

**UN number:** 1090  
**Proper Shipping Name:** ACETONE  
**Class:** 3  
**Packing Group:** II

**Air Transport (International Air Transport Association Dangerous Goods Regulations):**

**UN number:** 1090  
**Proper Shipping Name:** ACETONE  
**Class:** 3  
**Packing Group:** II

**SECTION 15: REGULATORY INFORMATION**

**Classification:** Hazardous according to Approved Criteria For Classifying Hazardous Substances [NOHSC:1008(2004)] 3<sup>rd</sup> Edition, October 2004, National Occupational Health and Safety Commission.

**Poisons Schedule:** Dangerous Good according to criteria of the Australian Dangerous Goods Code  
 Schedule 5 Poison

**SECTION 16: OTHER INFORMATION****Further Information can be obtained from:**

CSR Distilleries Operations Pty Limited (ABN 85 009 660 191)  
 265 Whitehall Street, Yarraville VIC 3013, Australia.  
 Phone 1800 819 618 (available in Australia only). Fax 1800 647 260  
 or **Poisons Information Centre 13 11 26**

**Additional Information**

National Occupational Health and Safety Commission reference documents.

National Code Of Practice For The Labelling of Workplace Substances [NOHSC:2012(1994)], March 1994, Australian Government Publishing Service, Canberra.

List Of Designated Hazardous Substances [NOHSC:10005(1999)] April 1999 National Occupational Health and Safety Commission, Sydney.

National Code of Practice for the Preparation of Material Safety Data Sheets 2<sup>nd</sup> Edition [NOHSC:2011(2003)], April 2003.

National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC:2007(1994)]; (Australian States have similar Codes of Practice in each State).

**Australian Standards References:**

AS 1020 The Control of undesirable static electricity.  
 AS 1076 Code of Practice for selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres (other than mining applications) – Parts 1 to 13.  
 AS/NZS 1336 Recommended Practices for Occupational Eye Protection.  
 AS/NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices.  
 AS/NZS 1716 Respiratory Protective Devices.  
 AS 1940 The Storage and Handling of Flammable and Combustible Liquids.  
 AS 2161 Industrial Safety Gloves and Mittens (excluding electrical and medical gloves).  
 AS 2380 Electrical equipment for explosive atmospheres – Explosion Protection Techniques (Parts 1 to 9).  
 AS 3000 Electrical installations (known as the Australian/New Zealand Wiring Rules).

This MSDS was correct at the time it was prepared (see below for the date). The Supplier, as part of its Health and Safety Programme, updates MSDS's when its ongoing review process indicates a need for a change to be made. You should make sure that the MSDS you are reading and relying on is current. You can do this by contacting the Supplier at the above address.

**Issue Date:** 08/2008

**MSDS Revision Summary**

Supersedes Issue Date: 06/2005

Reasons for Issue: Updated emergency phone number only. Full review required by 06/2010.

CSR MSDS No.: MSDS-010

**Expiry Date:** 06/2010