Safety Data Sheet ACETONITRILE

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SECTION 1: Identification

GHS Product identifier

Product name	ACETONITRILE

Other means of identification

Acetonitrile AR	AA103

Recommended use of the chemical and restrictions on use

Solvents in hydrocarbon-extract processes, especially for butadiene; specialty solvent; intermediate; catalyst; separation of fatty acids from vegetable oils; manufacturing of synthetic pharmaceuticals and laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following:
Class 1, Class 2.1, if both the Class 3 and Class 2.1 dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane, Class 7.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, dermal, Cat. 4
- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, oral, Cat. 4
- Serious eye damage/eye irritation, Cat. 1
- Flammable liquids, Cat. 2

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**

Hazard statement(s)

H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H318	Causes serious eye damage
H332	Harmful if inhaled

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physcian if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water/soap
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physcian
P312	Call a POISON CENTER/doctor/physcian if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 41.05

Components

Component	CAS no.	Concentration
Acetonitrile (EC no.: 200-835-2; Index no.: 608-001-00-3)	**75-05-8**	**100 - 100 % (weight)**
CLASSIFICATIONS: Flammable liquids, Cat. 2; Acute toxicity, inhalation, Cat. 4; Acute toxicity, dermal, Cat. 4; Acute toxicity, oral, Cat. 4; Serious eye damage/eye irritation, Cat. 2A. HAZARDS: H225 - Highly flammable liquid and vapor; H302 - Harmful if swallowed; H312 - Harmful in contact with skin; H319 - Causes serious eye irritation; H332 - Harmful if inhaled.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Have a safety shower/eye-wash fountain readily available in the immediate work area. Advice to Doctor: Severe exposure should be treated as cyanide poisoning. Treat as cyanide poisoning. The oneself symptoms is generally delayed pending conversation to Cyanide, Nausea, Vomit, Headache, Dizziness, Rash, Cyanosis, Excitement, Depression, Drowsiness, Impaired Judgment, Lack of Coordination, Stupor and Death.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
In case of skin contact	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Small fire: Use dry chemical, CO2 or water spray.
Large fire: Use water spray, fog or foam - Do NOT use water jets.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical
Hazards from Combustion Products: Carbon monoxide, carbon dioxide, hydrogen cyanide, oxides of nitrogen.

May be ignited by heat, sparks or flames. Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back. Most vapours are heavier than air and will spread along the ground and collect in low or confined areas (drains, basements,tanks). Many liquids are lighter than water. Containers may explode when heated. Fire may produce irritating, poisonous or corrosive gases. Vapours from run-off may create an explosion hazard.

Special protective actions for fire-fighters
Wear SCBA and fully encapsulating, gas-tight suit when handling these substances. Structural firefighter's uniform is NOT effective for these materials.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Evacuate the area of all non-essential personnel. Remove ignition sources
Avoid inhalation, contact with skin, eyes and clothing. Ventilate
contaminated area thoroughly.
Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up
Spills & Disposal: Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 25m. All equipment in handling this product must be earthed. Do NOT touch or walk through this product. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Vapour suppressing foam may be used to control vapours. Water spray may be used to knock down or divert vapours. Absorb spill with earth, sand or other non-combustible material. Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal.
SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

Absorb or contain liquid with sand, earth or spill control material. Shovel up
using non sparking tools and place in a labelled, sealable container for
subsequent safe disposal. Put leaking containers in a labelled drum or
overdrum.
Prevent from entering into drains, ditches, rivers or the sea.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated area, out of direct sunlight. Store away from heat and ignition sources. Keep containers closed at all time. Store away from incompatible materials such as oxidizing materials, strong acids, water or products containing water.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Provide sufficient ventilation to ensure that the working environment is below the TWA (time weighted average). Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required.

Refer to AS 1940-The storage and handling of flammable and combustible liquids and AS 2430-Explosive gas atmospheres for further information concerning ventilation requirements.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Hand protection should comply with AS 2161 Industrial Safety Gloves and Mittens (Excluding Electrical and Medical Gloves).

Body protection
Foot protection should comply with AS 2210 Safety Footwear.

CHEMICAL RESISTANCE FOR PROTECTIVE CLOTHING:
VERY GOOD: Butyl rubber
GOOD: Chlorinated polyethylene, polyvinyl alcohol, Viton, butyl rubber/neoprene, Teflon, neoprene+natural rubber, Saranax, Silvershield, Viton/chlorobutyl rubber.
FAIR/POOR: Viton/neoprene, natural rubber, neoprene, nitrile, polyethylene, polyvinyl chloride.
Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection
Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Colourless limpid liquid.
Color	No data available.
Odor	Oromatic odour.
Odor threshold	42 ppm - (detection); 500 ppm - (irritation)
Melting point/freezing point	-46 °C
Boiling point or initial boiling point and boiling range	81.6 °C
Flammability	HIGHLY FLAMMABLE. Keep away from heat, sparks or naked flames. Use flameproof equipment and fittings to prevent flammability risk. Electrically link and ground metal containers for transfer of the product to prevent accumulation of static electricity. Ens
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 3.0 vol% Flammable Limits - Upper: 16.0 vol%
Flash point	5.6 °C (open cup) 12.8 °C (closed cup)
Explosive properties	No data available.
Auto-ignition temperature	525 °C
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.

Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble Solubility in Organic Solvents: Very soluble in alcohol, ether, acetone, chloroform, carbon tetrachloride, ethylene chloride.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	97 hPa at 20°C
Evaporation rate	5.79 (butyl acetate = 1)
Density and/or relative density	Specific Gravity: 0.787 (water = 1)
Relative vapor density	1.4 (air = 1)
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
Other Information: Will decompose on heating. Reacts with water or steam to form toxic and flammable vapours.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous Polymerization: Will not occur.

Conditions to avoid
Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

Incompatible materials
Oxidizing agents, acids, reducing agents and alkali metals.

Hazardous decomposition products
Oxides of carbon and nitrogen, hydrogen cyanide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Ingestion: Harmful if swallowed.

Inhalation: Harmful by inhalation. Vapour or mist can cause irritation of the nose and throat at high concentrations. Symptoms include weakness, headache, giddiness, dizziness, confusion, anxiety, nausea and vomiting. In severe cases, breathing is rapid, then becomes slow and gasping. The victim may feel an irregular heart beat and tightness in the chest. The skin appears bright pink or red. Fluid may fill the lungs and interfere with breathing. Unconsciousness, convulsions and death can follow depending on the degree of exposure.

Skin corrosion/irritation
Harmful in contact with the skin. May causes mild irritation.

Serious eye damage/irritation
Causes serious eye damage.

Serious eye damage/irritation: Eye Damage/Irritation: Category 1
H318 Causes serious eye damage.

Respiratory or skin sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure
Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure
Not classified based on available information.

Aspiration hazard
No data available.

SECTION 12: Ecological information

Toxicity
Biological effects: Toxic effect on fish and plankton. Risk of formation of toxic and explosive mixtures with air above water surface. Hazard for drinking water supplies.

Bioaccumulative potential
Distribution; log P(oct) -0.34 (experimental). No Bioaccumulation is to be expected (log P o/w <1)

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal
Distribution; log P(oct) -0.34 (experimental). No Bioaccumulation is to be expected (log P o/w <1)

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 1648
Class: 3
Packing Group: II
Proper Shipping Name: ACETONITRILE

Hazchem emergency action code (EAC)
2WE

IMDG
UN Number: 1648
Class: 3
Packing Group: II
EMS Number:
Proper Shipping Name: ACETONITRILE

IATA
UN Number: 1648
Class: 3
Packing Group: II
Proper Shipping Name: ACETONITRILE

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)