

Safety Data Sheet POTASSIUM HYDROXIDE Solution In Methanol

SDS no. WXZCLAB0 • Version 1.0 • Date of issue: 2023-02-27

SECTION 1: Identification

GHS Product identifier

Product name POTASSIUM HYDROXIDE Solution In Methanol

Recommended use of the chemical and restrictions on use

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

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.

Dangerous Goods of Class 6 Toxic and Infectious Substances are incompatible in a placard load with any of the following: - Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, and are incompatible with food packaging in any quantity.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, dermal, Cat. 3
- Acute toxicity, inhalation, Cat. 3
- Acute toxicity, oral, Cat. 3
- Serious eye damage/eye irritation, Cat. 1
- Specific target organ toxicity following single exposure, Cat. 1

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- Skin corrosion/irritation, Cat. 1A
- Flammable liquids, Cat. 2

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H370	Causes damage to organs

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.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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/physician
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
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

Components

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Component	CAS no.	Concentration
Potassium hydroxide (EC no.: 215-181-3; Index no.: 019-002-00-8)	1310-58-3	<= 1.2 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Skin corrosion/irritation, Cat. 1A. HAZARDS: H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage. [SCLs/M-factors/ATEs]: Skin Corr. 1A; H314: C ≥ 5 %; Skin Corr. 1B; H314: 2 % ≤ C < 5 %; Skin Irrit. 2; H315: 0,5 % ≤ C < 2 %; Eye Irrit. 2; H319: 0,5 % ≤ C < 2 %		
Methanol (EC no.: 200-659-6; Index no.: 603-001-00-X) (weight)	67-56-1	99 - <= 100 %
CLASSIFICATIONS: Flammable liquids, Cat. 2; Acute toxicity, inhalation, Cat. 3; Acute toxicity, dermal, Cat. 3; Acute toxicity, oral, Cat. 3; Specific target organ toxicity following single exposure, Cat. 1. HAZARDS: H225 - Highly flammable liquid and vapor; H301 - Toxic if swallowed; H311 - Toxic in contact with skin; H331 - Toxic if inhaled; H370 - Causes damage to organs [organs, route]. [SCLs/M-factors/ATEs]: *; STOT SE 1; H370: C ≥ 10 %; STOT SE 2; H371: 3 % ≤ C < 10 %		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.
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 attention.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical assistance.
If swallowed	Rinse mouth thoroughly with water immediately. DO NOT induce vomiting. If vomiting occurs give further water to achieve effective dilution. If vomiting occurs, have victim lean forward to reduce risk of aspiration. Seek immediate medical assistance.

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, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor at once

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Specific Methods: Caution: Use of water spray when fighting fires may be inefficient.

Small fire: Use foam, dry chemical, CO₂ or water spray.

Large fire: Use foam, fog or water spray - 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

HIGHLY FLAMMABLE: This product has a low flash point. Will be easily ignited by heat, sparks or flames. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Many vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Many liquids are lighter than water. Containers may explode on heating. Fire will produce irritating, poisonous or corrosive gases. Vapours from run-off may create an explosion hazard.

Special protective actions for fire-fighters

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Wear positive pressure 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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 50m. 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.

SECTION 7: Handling and storage

Precautions for safe handling

Store in cool place and out of direct sunlight. Store in well ventilated area. Store away from sources of heat or ignition. Store away from oxidizing agents. Store away from acids. Keep containers securely sealed and protected against physical damage.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 1310-58-3 (EC: 215-181-3)

Potassium hydroxide

ACGIH (USA): 2 mg/m³ PEL-C inhalation; AU/SWA (Australia): 2 Peak limitation mg/m³ TWA inhalation; NIOSH (USA): 2 mg/m³ PEL-C inhalation

CAS: 67-56-1 (EC: 200-659-6)

Methanol

ACGIH: 200 ppm TLV[®] inhalation; 250 ppm (ST) TLV[®] inhalation; AU/SWA (Australia): 250 ppm; 328 mg/m³ STEL inhalation; 200 ppm; 262 mg/m³ TWA inhalation; NIOSH: 250 ppm PEL-ST inhalation; 200 ppm REL-TWA inhalation;

Appropriate engineering controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

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

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Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Clean clothing or protective clothing should be worn, preferably with and apron. 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 vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colourless solution.
Color	No data available.
Odor	Alcohol.
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	64°C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 6% Flammable Limits - Upper: 36%
Flash point	11°C
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	12
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: ~0.8
Relative vapor density	1.4
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

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Reacts with incompatible materials

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability

Stable.

Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

Conditions to avoid

Heat and ignition sources.

Incompatible materials

Oxidising agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metal, ammonia.

Hazardous decomposition products

Oxides of carbon.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Effects are the same as those described for <qt>Inhalation</qt> below. There is a wide range of individual susceptibility to the toxic effects of methanol (from a fatal dose of 15 mL of 40% methanol, to survival following ingestion of 500 mL of the same solution). In general, 300 to 1000 mg/kg is considered the range of minimum lethal dose for untreated cases of methanol poisoning. Methanol can probably be easily aspirated (breathed) into the lungs) during ingestion or vomiting, based on its physical properties and comparison to related alcohols. Aspiration of methanol could cause a potentially fatal accumulation of fluid in the lungs (pulmonary edema). Ingestion is not a typical route of occupational exposure.

Inhalation: A slight irritant to the mucous membranes. Methanol is toxic and can very readily form extremely high vapour concentrations at room temperature. Inhalation is the most common route of occupational exposure. At first, methanol causes mild central nervous system (CNS) depression with symptoms such as nausea, headache, vomiting, dizziness, in coordination and an appearance of drunkenness. A time period with no obvious symptoms follows (typically 8-24 hours, but may last several hours to 2 days). This latent period is then followed by development of metabolic acidosis and severe visual effects. Symptoms such as headache, dizziness, nausea and vomiting, followed in more severe cases by abdominal and muscular pain and difficult periodic breathing have been observed. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness. Depending on the severity of poisoning and the promptness of treatment, survivors may recover completely or may have permanent blindness, vision disturbances and/or nervous system effects.

Skin corrosion/irritation

Methanol may be moderately irritating to the skin, based on unconfirmed animal information. No human information was located. Methyl alcohol is a defatting agent and may cause skin to become dry and cracked. Skin absorption can occur; symptoms may parallel inhalation exposure.

Serious eye damage/irritation

Methanol is a mild to moderate eye irritant, based on animal information. There is no human information available. Inhalation, ingestion or skin absorption of methanol can cause significant disturbances to vision, including blindness. Refer to <qt>Inhalation</qt> above for additional information.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

Causes damage to organs.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Exposure can cause damage to the eyes, damage to the liver, damage to the heart, damage to the kidneys, gastrointestinal disturbances. May cause convulsions.

SECTION 12: Ecological information

Persistence and degradability

Abiotic degradation: Slow degradation. (air)

Biologic degradation: BOD 76 % von TOD /5 d (closed bottle test).

Readily biodegradable (reduction: DOC >70 %; BOD >60 %; BOD5 to COD >50 %).

Degradability:

BOD5: 0.60 - 1.12 g/g; COD: 1.42 g/g; TOD: 1.5 g/g.

Bioaccumulative potential

Distribution: log P(o/w): -0.74.

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(o/w): -0.74.

No bioaccumulation is to be expected (log P(o/w) <1).

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Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 3286

Class: 3, 6.1, 8

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, CORROSIVE N.O.S. (Contains Methanol, Potassium Hydroxide)

Hazchem emergency action code (EAC)

3WE

IMDG

UN Number: 3286

Class: 3, 6.1, 8

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, CORROSIVE N.O.S. (Contains Methanol, Potassium Hydroxide)

IATA

UN Number: 3286

Class: 3, 6.1, 8

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, CORROSIVE N.O.S. (Contains Methanol, Potassium Hydroxide)

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S6

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.

Preparation information

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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 for 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 Airborne 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)