Infosafe No™	3CH9R	Issue Date : February 2018	RE-ISSUED by ACR

Product Name : **POTASSIUM HYDROXIDE Solution In Methanol**

Classified as hazardous

1. Identification

GHS Product Identifier POTASSIUM HYDROXIDE Solution In Methanol

Company Name AUSTRALIAN CHEMICAL REAGENTS (ACR) (ABN 19 008 264 211)

Address 38 - 50 Bedford Street Gillman
S.A. 5013 Australia

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Recommended use of the chemical and restrictions on use Laboratory reagent.

Other Names

Name	Product Code
POTASSIUM HYDROXIDE 0.1M/0.1N Solution In Methanol	0938
POTASSIUM HYDROXIDE 0.2M/0.2N Solution In Methanol	5621

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

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2. Hazard Identification

GHS classification of the substance/mixture Australia:
Classified as HAZARDOUS according to the criteria of the ASCC, Australian Safety and Compensation Council (formly NOHSC).
Classified as DANGEROUS GOOD by the Australian Dangerous Goods Code.
Flammable Liquids: Category 2
Acute Toxicity - Dermal: Category 3
Acute Toxicity - Inhalation: Category 3
Acute Toxicity - Oral: Category 3
Specific Target Organ Toxicity - Single Exposure Category 1
Eye Damage/Irritation: Category 2A
Skin Corrosion/Irritation: Category 2
Corrosive to Metals: Category 1

Signal Word (s) DANGER

Hazard Statement (s)
H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H370 Causes damage to organs.
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Pictogram (s) Flame, Health hazard, Skull and crossbones, Exclamation mark

Precautionary statement – Prevention	P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P233 Keep container tightly closed. P234 Keep only in original container. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/.../equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash 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.
Precautionary statement – Response	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P330 Rinse mouth. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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. P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. P370+P378 In case of fire: Use water spray, carbon dioxide, dry chemical powder or appropriate foam for extinction. P390 Absorb spillage to prevent material damage.
Precautionary statement – Storage	P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool. P405 Store locked up. P406 Store in corrosive resistant/... container with a resistant inner liner.
Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization Liquid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Methanol	67-56-1	99-100 %		
Potassium hydroxide	1310-58-3	<1.2 %		

4. First-aid measures

Inhalation	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.
Ingestion	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.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical attention.
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.
First Aid Facilities	Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

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.
Hazchem Code	•3W
Precautions in connection with Fire	Wear positive pressure SCBA and fully encapsulating, gas-tight suit when handling these substances. Structural firefighter's uniform is NOT effective for these materials.

6. Accidental release measures

Spills & Disposal	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.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)

7. Handling and storage

Conditions for safe storage, including any incompatabilities	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.
Storage Regulations	Refer Australian Standard AS 1940 - 2017 'The storage and handling of flammable and combustible liquids'.

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Methanol	328	250	262	200	
Potassium hydroxide			2		peak limitation

Other Exposure Information	TWA: 2 mg/m3 - peak limitation - potassium hydroxide - Safe Work Australia. Peak Limitation - a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes. A time weighted average (TWA) has been established for Methyl alcohol [Methanol] (Safe Work Australia) of 262 mg/m³, (200 ppm). The corresponding STEL level is 328 mg/m³, (250 ppm). The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Note: Absorption through the skin may be a significant source of exposure.
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.
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.
Eye 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.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
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.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear, colourless solution.
Odour	Alcohol.
Boiling Point	64°C
Solubility in Water	Soluble.
Specific Gravity	~0.8
pH	12
Vapour Density (Air=1)	1.4
Flash Point	11°C
Flammability	Flammable liquid.
Flammable Limits - Lower	6%
Flammable Limits - Upper	36%

10. Stability and reactivity

Chemical Stability	Stable.
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.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	Effects are the same as those described for 'Inhalation' 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	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.
Eye	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 'Inhalation' above for 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.

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).

13. Disposal considerations

Disposal Considerations	Dispose of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	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.
U.N. Number	1992
UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S. - (Contains methanol)
Transport hazard class(es)	3
Sub.Risk	6.1
Hazchem Code	•3W
Packaging Method	3.8.3RT1,RT7
Packing Group	II
EPG Number	3A3
IERG Number	16

15. Regulatory information

Poisons Schedule	S6
Hazard Category	Toxic,Highly Flammable

16. Other Information

Literature References	Australian Health Ministers' Advisory Council, 'Standard for the Uniform Scheduling of Drugs and Poisons No.15', AGPS, Canberra 2000. Lewis, Richard J. Sr.'Hawley's Condensed Chemical Dictionary 12th. Ed.', Rev., Van Nostrand Reinhold, NY, 1993. National Road Transport Commission, 'Australian Dangerous Goods Code 6th. Ed.', AGPS, Canberra, 1998. South Australia Government, 'Approved Code of Practice for the Labelling of Workplace Substances', 1995. Standards Australia, 'Dangerous Goods - Initial Emergency Response Guide', 1997. Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)]',

AGPS, Canberra 1999.
Worksafe Australia, 'List of Designated Hazardous Substances [NOHSC:10005(1999)]', AGPS, Canberra 1999.
Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]', AGPS, Canberra 1994.
Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]', AusInfo Department of Finance and Administration, Canberra 1995.

Contact Person/Point

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