

Infosafe No™	1CH94	Issue Date : July 2019	RE-ISSUED by ACR
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Product Name : **POTASSIUM HYDROXIDE Solution >5%**

Classified as hazardous

1. Identification

GHS Product Identifier POTASSIUM HYDROXIDE Solution >5%

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

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

Telephone/Fax Number Tel: (08) 8440 2000
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Emergency phone number CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

Recommended use of the chemical and restrictions on use Manufacture of soaps, printing inks, paint and varnish removers, dyestuffs, liquid fertilizers and herbicides, electroplating, electrolyte in alkaline storage batteries and organic synthesis.

Other Names

<u>Name</u>	<u>Product Code</u>
Potassium hydroxide 10%w/v	1247
Caustic potash solution	
Potassium hydroxide 10M	4508
Potassium hydroxide 20%w/v	1950
Potassium hydroxide 30%w/v	0996
Potassium hydroxide 40%w/v	1031
Potassium hydroxide 48%w/v	4413
Potassium hydroxide 8N	4078
Potassium Hydroxide 45% w/v	3109
Potassium Hydroxide 1N	0027
Potassium Hydroxide 2N	6103
Potassium Hydroxide 5% w/v	2958

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

Australian Chemical Reagents (ACR) 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 Australian Chemical Reagents (ACR) 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 Australian Chemical Reagents (ACR) is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture Corrosive to Metals: Category 1
Acute Toxicity - Oral: Category 4
Skin Corrosion/Irritation: Category 1A

Signal Word (s) DANGER

Hazard Statement (s) H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Pictogram (s) Corrosion, Exclamation mark



Precautionary statement – Prevention P234 Keep only in original container.
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.

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Precautionary statement – Response

P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P363 Wash contaminated clothing before reuse.
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P310 Immediately call a POISON CENTER or doctor/physician.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement – Storage
Precautionary statement – Disposal

P405 Store locked up.
 P406 Store in corrosive resistant container with a resistant inner liner.
 P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization	Liquid				
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Water	7732-18-5	55-95 %		
	Potassium hydroxide	1310-58-3	5-50 %		

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. Immediately medical attention is required.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
Eye contact	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek medical attention.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically as for strong alkalis. Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	Burns are not immediately painful, onset of pain may be minutes to hours. For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Suitable extinguishing media	Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Hazards from Combustion Products	May liberate toxic fumes in fire (oxides of carbon).
Specific hazards arising from the chemical	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.
Hazchem Code	2R
Precautions in connection with Fire	Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

6. Accidental release measures

Spills & Disposal	Do NOT touch or walk through this product. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Cover with DRY earth, sand or other non-combustible material followed by plastic sheet to minimize
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Personal Precautions	spreading or contact with rain. DO NOT GET WATER INSIDE CONTAINERS. Avoid inhalation, contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	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.
Clean-up Methods - Large Spillages	Seek expert advice on handling and disposal.
Environmental Precautions	Use appropriate containment to avoid environmental contamination.
Other Information	Spillages are very slippery.

7. Handling and storage

Precautions for Safe Handling	Avoid prolonged or repeated contact with skin, eyes and clothing . Avoid breathing vapour, spray or mists. Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment. Wash hands and face thoroughly after working with material.
Conditions for safe storage, including any incompatibilities	Store in a cool,dry place. Keep containers securely sealed and protected against physical damage. Avoid direct sunlight, heat sources, and strong oxidizing agents. Store away from foodstuffs. Do not store in aluminium or galvanised containers or use die-cast zinc or aluminium bungs. Steel bungs should be used. Reacts exothermically on dilution with water. Keep containers closed at all times - check regularly for leaks.
Corrosiveness	Corrosive to aluminum, tin and zinc. Corrosive to steel at elevated temperatures.
Storage Regulations	Refer Australian Standard AS 3780 - 1994 'The storage and handling of corrosive substances'.

8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Potassium hydroxide			2		peak limitation
Other Exposure Information	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for Potassium hydroxide (Safe Work Australia) of 2 mg/m ³ . 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.					
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. These methods should be used in preference to personal protective equipment.					
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	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments.					
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.					

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Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Clean clothing or protective clothing should be worn, preferably with an 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, slightly hazy solution.
Odour	Odourless.
Solubility in Water	Soluble (20 °C)
Solubility in Organic Solvents	Soluble in methanol.
Specific Gravity	50% w/w approx 1.50 25% w/v approx 1.236
pH	pH of 1% aqueous solution: ~13
Viscosity	8.836 cP (20 °C)
Flammability	Non combustible material.
Molecular Weight	56.11
Other Information	Refractive index: 1.421

10. Stability and reactivity

Chemical Stability	Stable. Absorbs carbon dioxide from the air.
Conditions to Avoid	Exposure to moisture. High temperatures. Incompatibles.
Incompatible Materials	Strong acids, acetone, aluminium, ammonium compounds, alkaline earth metals, chlorinated hydrocarbons, halogens and halogenated compounds, metals, anhydride, strong oxidizing agents and nitro organic compounds. Glass, metals and various plastics.
Hazardous Decomposition Products	Potassium oxides.
Possibility of hazardous reactions	May react explosively with maleic anhydride and nitro and chloro organic compounds. In contact with metals, may produce flammable and explosive hydrogen gas. May react with organohalogen compounds to form spontaneously combustible compounds. Violent reaction with acids, yielding heat and pressure which can burst an enclosed container.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 273 mg/kg (pure substance).
Ingestion	Harmful if swallowed. Corrosive to mucous membranes and may cause perforation of the esophagus and stomach. Abdominal pain, nausea, vomiting, general gastro-intestinal upset can be expected.
Inhalation	Respiratory tract irritant, causes serious burns on acute contact. Severe injury is usually avoided by the self-limiting coughing, wheezing, shortness of breath and sneezing symptoms. May lead to spasms, inflammation and edema of the larynx/bronchi, pneumonitis, pulmonary edema and burning sensation.
Skin	Causes skin burns and irritation upon contact. Soreness, redness, destruction of skin may result.
Eye	Causes eye burns and irritation upon contact. Tearing, redness, pain, impaired vision are symptoms. Risk of blindness! Risk of corneal clouding!
Carcinogenicity	No evidence of carcinogenic properties.
Chronic Effects	Development of a defatting dermatitis on prolonged contact with potassium hydroxide has been reported. Continued irritation may lead to increased susceptibility to respiratory illness.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Ecological Information	Harmful to aquatic life due to pH shift.
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Ecotoxicity	No ecological data available for this product.
Environmental Protection	Avoid contaminating waterways.
Other Information	Do not allow to enter drinking water supplies, waste water or soil!

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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14. Transport information

Transport Information	Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following: Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.
U.N. Number	1814
UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION
Transport hazard class(es)	8
Hazchem Code	2R
Packaging Method	3.8.8RT8
Packing Group	II
EPG Number	8A1
IERG Number	37

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	S6
Hazard Category	Harmful, Corrosive

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Chemical Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT:
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Empirical Formula & Structural Formula	KOH ...End Of MSDS...

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