



Infosafe No™	1CHC0	Issue Date : April 2013	RE-ISSUED by CHEMSUPP
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Product Name : **SODIUM HYDROXIDE 0.5-1.5% Solution**

Classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	SODIUM HYDROXIDE 0.5-1.5% Solution	
<b>Company Name</b>	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)	
<b>Address</b>	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
<b>Telephone/Fax Number</b>	Tel: (08) 8440-2000 Fax: (08) 8440-2001	
<b>Recommended use of the chemical and restrictions on use</b>	Used in chemical manufacturing (pH control, acid neutralization, off-gas scrubbing and catalyst); pulp and paper manufacturing; in petroleum and natural gas industry (removing acidic contaminants in oil and gas processing); manufacture of soap and detergents and other cleaning products; and cellulose, such as rayon, cellophane and cellulose ethers; cotton mercerizing and scouring; water treatment; food processing; flue-gas scrubbing; mining; glass making; textile processing, laundering, and bleaching; refining vegetable oils; rubber reclamation; metal processing; etching and electroplating; oxide coating; electrolytic extraction of zinc; tin plating; aluminum processing; metal degreasing; drain and pipe cleaning; adhesive preparations; paint remover; wood treatment; disinfectant; cleaning of non-disposable bottles by the drink and beer industry; batteries; oven-cleaner pads; rubber latex stabilizer; stabilization of sodium hypochlorite; in making plastics to dissolve casein; pharmaceutical aid (alkalizer) and laboratory reagent.	
<b>Other Names</b>	<b>Name</b>	<b>Product Code</b>
	SODIUM HYDROXIDE 0.2M (0.2N) Solution LR Caustic soda solution Lye	SL133
<b>Other Information</b>	SODIUM HYDROXIDE 0.333M (0.333N) Solution LR EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday.	SL489

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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.

**2. Hazard Identification**

<b>GHS classification of the substance/mixture</b>	Corrosive to Metals: Category 1 Skin Corrosion/Irritation: Category 2 Eye Damage/Irritation: Category 2A
<b>Signal Word (s)</b>	WARNING
<b>Hazard Statement (s)</b>	H290 May be corrosive to metals. H315 Causes skin irritation. H319 Causes serious eye irritation.
<b>Pictogram (s)</b>	Corrosion



<b>Precautionary statement – Prevention</b>	P234 Keep only in original container. P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement – Response</b>	P302+P352 IF ON SKIN: Wash with plenty of soap and water. P332+P313 If skin irritation occurs: Get medical advice/attention. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



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**Precautionary statement – Storage**

P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P390 Absorb spillage to prevent material damage.  
 P406 Store in corrosive resistant container with a resistant inner liner.

**3. Composition/information on ingredients**

Chemical	Liquid				
Characterization					
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Water	7732-18-5	98.5-99.5 %		
	Sodium hydroxide	1310-73-2	0.5-1.5 %	C	R35

**4. First-aid measures**

<b>Inhalation</b>	Remove from exposure, rest and keep warm. If breathing has stopped, apply artificial respiration. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. Seek urgent medical assistance.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Never give anything by mouth to an unconscious person. If swallowed, do NOT induce vomiting. If vomiting occurs give further water to achieve effective dilution. Seek immediate medical assistance.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Contaminated clothing must be laundered before re-use. Seek medical attention.
<b>Eye contact</b>	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical assistance.
<b>First Aid Facilities</b>	Maintain eyewash fountain, drench facilities and normal washroom facilities in work area.
<b>Protection for First Aiders</b>	WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

**5. Fire-fighting measures**

<b>Suitable extinguishing media</b>	Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
<b>Hazards from Combustion Products</b>	Not combustible.
<b>Specific hazards arising from the chemical</b>	Material does not burn.
<b>Hazchem Code</b>	2R

**6. Accidental release measures**

<b>Personal Precautions</b>	Evacuate the area of all non-essential personnel. Avoid contact with skin, eyes.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)
<b>Clean-up Methods - Small Spillages</b>	Absorb liquid with sand or earth. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

**7. Handling and storage**

<b>Precautions for Safe Handling</b>	Avoid contact with eyes, skin, and clothing. Change contaminated clothing. Contaminated clothing should be removed and washed before re-use.
<b>Conditions for safe storage, including any incompatibilities</b>	Corrosive materials should be stored in a separate safety storage cabinet or room. Store in tightly closed container, in a cool, dry, well-ventilated area away from incompatible substances. Store away from heat, sources of ignition, acids, oxidising agents, moisture, metals (aluminium, lead, magnesium, tin, or zinc), foodstuffs, and clothing.
<b>Corrosiveness</b>	Corrosivity to Metals: Corrosive to aluminium, tin, zinc, copper, brass and bronze. Corrosive to steel at elevated temperatures (above 40 °C). Not corrosive to nickel. Slowly attacks glass at room temperature.



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**Storage Regulations** Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.**Storage** Store at room temperature (15 to 25 °C recommended). Protect from freezing.**Temperatures****Unsuitable Materials** Aluminium, zinc or tin containers.**8. Exposure controls/personal protection****Other Exposure Information** A time weighted average (TWA) has been established for Sodium hydroxide - solid (Worksafe Aust) of 2 mg/m<sup>3</sup> (Peak limitation). 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.**Respiratory Protection** Where ventilation is not adequate, respiratory protection may be required. Avoid breathing 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.**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. Recommendation: Excellent: NR latex, vinyl and nitrile. Good: Neoprene gloves**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 solution.**Odour** Odourless.**Melting Point** Approx. -0.1 °C.**Boiling Point** Approx. 100 °C.**Solubility in Water** Miscible (soluble) in all proportions.**Specific Gravity** 1.00475 (0.5%wt); 1.00950 (1%wt); 1.01510 (1.5%wt).**pH** Basic. 12 (0.05% solution); 13 (0.5% solution); 14 (5% solution).**Flammability** Non combustible material.**Explosion Properties** Can react with certain/many metals to release explosive/highly flammable hydrogen gas. Can react explosively with nitro and chloro organic compounds.**Molecular Weight** 40.00 (pure substance).**10. Stability and reactivity****Chemical Stability** Stable at room temperature in tightly closed containers under ordinary conditions of use and storage. Sensitive to air. Sodium hydroxide rapidly absorbs carbon dioxide from the air (forming sodium carbonate). Moreover, contamination with iron is possible in carbon steel storage vessels or in lined carbon steel storage vessels where the liner has been impaired.**Conditions to Avoid** Extremes of temperature and direct sunlight, heat, moisture/water, light metals (aluminium, tin, or zinc), exposure to air, or carbon monoxide, and incompatible materials.**Incompatible Materials** Metals, such as aluminium, tin, lead or zinc will react producing hydrogen gas.**Hazardous Decomposition Products** Toxic fumes of sodium/sodium oxides (Na<sub>2</sub>O). Contact in moist air with light metals (like aluminium, zinc, tin and lead) may evolve combustible/explosive/flammable hydrogen gas.**11. Toxicological Information****Acute Toxicity - Oral** Rat: Orally applied 0.2N NaOH caused extensive damage to gastric mucosa of rats; histology: necrosis usually extending down through about two-thirds of the mucosa;



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<b>Ingestion</b>	Ingestion of this product may cause irritation and burns of mucous membranes in the mouth, pharynx, oesophagus, stomach and gastrointestinal tract, nausea, vomiting, and abdominal pain. May produce effects on the cardiovascular system, such as, a fall in blood pressure, a fall in heart rate and inhibited respiration.
<b>Inhalation</b>	Sodium hydroxide has a negligible vapour pressure and is rapidly neutralized in air by carbon dioxide and therefore vapour exposure is not expected. Inhalation of mists or vapours will result in respiratory irritation and possible harmful caustic effects including lesions of the nasal septum, pulmonary oedema, pneumonitis and emphysema.
<b>Skin</b>	May cause mild to severe irritation and possible burns to the skin, which can result in redness, itchiness, pain and swelling. Pain may be delayed. Slick feel to touch.
<b>Eye</b>	May cause slight to severe irritation to the eyes, which can result in redness, stinging, pain, loss of colour vision (blue vision) corneal oedema, lachrymation and possibly irreversible eye damage i.e. corneal burns. Risk of blindness!
<b>Skin Sensitisation</b>	Sodium hydroxide has been used widely and for a long time and no human cases of skin sensitisation have been reported and therefore sodium hydroxide is not considered to be a skin sensitizer.
<b>Carcinogenicity</b>	Not listed in the IARC Monographs. Alkalis are known to increase the risk of oesophageal cancer, which can occur years after the initial injury. The incidence of carcinoma following oesophageal injury from sodium hydroxide is 0.8-4%. Of the fifteen patients (age range 38-83) in a study by Isolauri and Markkula (1989) twelve had accidentally swallowed sodium hydroxide at the age of two or three years, one at fifteen years and one at twenty-three years of age. The time between ingestion and the diagnosis of oesophageal cancer was 22-81 years. Appelqvist and Salmo (1980) describe similar results, out of sixty patients with oesophageal cancer for which the time of ingestion was known, fifty-two had ingested the sodium hydroxide at the age of ten years or younger.
<b>Chronic Effects</b>	Repeated or prolonged exposure to this material may result in skin irritation. Repeated or prolonged skin contact may also lead to dermatitis.
<b>Serious eye damage/irritation</b>	Species: Rabbits, Protocol: Dose of 0.1 ml in lower conjunctival sac of left eye, Concentrations: 0.004; 0.04; 0.2; 0.4 and 1.2 %, Result: 0.004-0.2 %: non-irritant, 0.4 %: mild irritation, 1.2 % corrosive, Reference: Morgan et al. (1987). Species: Rabbits, Protocol: Dose of 0.1 ml, washed (after 30 s) and unwashed eyes, Concentrations: 0.1; 0.3; 1.0 and 3.0 %, Result: 0.1 and 0.3 %: no conjunctivitis nor iritis, 1.0 and 3.0 %: conjunctivitis and iritis, Reference: Murphy et al. (1982). Species: Rabbits, Protocol: OECD Guideline 405, Concentrations: 1 and 2 %, Result: 1 %: Not irritating, 2 %: Irritating, Reference: Jacobs (1992).
<b>Skin corrosion/irritation</b>	Species, Test Type: Human, upper outer arm, Protocol: 0.2 ml applied to a Plain Hill Top Chamber with Webril pad, 1 h exposure, Concentration: 0.5 %, Result: Irritating for 55% of the volunteers, Reference: Griffiths et al. (1997). Species, Test Type: Human, upper outer arm, Protocol: Human patch testing with Hill Top Chambers, exposure between 15 and 60 min, 0.2 ml, Concentration: 0.5 %, Result: Positive irritant for 61 % of volunteers, Reference: York et al. (1996). Species, Test Type: Human, intact skin, Protocol: Four different protocols, < 4 hours, Concentration: 1.0 %, Result: Positive irritant for about 50 % of volunteers, Reference: York et al. (1995). Species, Test Type: Human, intact skin of back and forearm, Protocol: Filter disc with 70 µl solution, 3, 15 and 60 min exposure, Concentration: 0.5 and 1 %, Result: Irritating (mainly erythema), Reference: Dykes et al. (1995).

**12. Ecological information**

<b>Ecological Information</b>	No ecological problems are to be expected when the product is handled and used with due care and attention.
<b>Ecotoxicity</b>	Harmful effect due to pH shift.
<b>Persistence and degradability</b>	Methods for the determination of biodegradability are not applicable to inorganic substances.
<b>Environmental Protection</b>	Avoid contaminating waterways.

**13. Disposal considerations**

<b>Disposal Considerations</b>	Dispose of according to relevant local, state and federal government regulations.
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**14. Transport information**



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<b>Transport Information</b>	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.
<b>U.N. Number</b>	1824
<b>UN proper shipping name</b>	SODIUM HYDROXIDE SOLUTION
<b>Transport hazard class(es)</b>	8
<b>Hazchem Code</b>	2R
<b>Packaging Method</b>	3.8.8RT8
<b>Packing Group</b>	II
<b>EPG Number</b>	8A1
<b>IERG Number</b>	37

**15. Regulatory information**

Poisons Schedule S5

**16. Other Information**

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons No. 4', Commonwealth of Australia, June 2013. 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. 'Labelling of Hazardous Workplace Chemicals, Code of Practice' Safe Work Australia. 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 Substances 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)]'. Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b> All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
<b>Contact Person/Point</b>	
<b>Empirical Formula &amp; Structural Formula</b>	NaOH (pure substance).
<b>Other Information</b>	Previously labelled as: R36/38 Irritating to eyes and skin. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39 Wear suitable gloves and eye/face protection. S45 In case of accident or if you feel unwell seek medical advice immediately. ...End Of MSDS...

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