

MATERIAL SAFETY DATA SHEET



Hazardous Substance, Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: **Sodium Hydroxide Solution (45-50%)**

Recommended use: Chemical reagent, neutralising solution.

Supplier: AVC Trading Pty Ltd
ABN: 65 099 189 072
Street Address: 65 Leakes Road
Laverton Victoria 3028
Australia
Telephone: +613 9368-4800
Facsimile: +613 9368-4888

Emergency telephone number: **1800 677 959**

2. HAZARDS IDENTIFICATION

This material is hazardous according to health criteria of NOHSC Australia.

Hazard Category:

C Corrosive

Risk Phrase(s):

R35: Causes severe burns.

R41: Risk of serious damage to eyes.

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail.

Class: 8 Corrosive

Poisons Schedule (Aust): S6

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO.	PROPORTION
Sodium hydroxide	1310-73-2	45 - 50%
Water	-	Balance
		<hr/> 100%

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4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. For all but the most minor symptoms arrange for patient to be seen by a doctor as soon as possible, either on site or at the nearest hospital.

Skin contact: Immediately wash contaminated skin with plenty of water. For gross contamination, immediately drench with water and remove clothing. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering, or irritation occurs seek medical advice. For skin burns, immediately flood burnt area with plenty of water and cover with a clean, dry dressing. Seek immediate medical advice.

Eye contact: Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Ingestion: Immediately rinse mouth with water. Give water to drink. Do NOT induce vomiting. If vomiting occurs, place victim's face downwards, head lower than hips to prevent vomit entering lungs. Seek immediate medical assistance.

Notes to physician: Treat symptomatically and as for strongly alkaline corrosive material.

5. FIRE-FIGHTING MEASURES

Specific hazards: Non combustible material.

Fire fighting further advice: Not combustible, however reaction with metals will produce flammable hydrogen gas, which will burn if ignited. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

Hazchem Code: 2R

Suitable extinguishing media: Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours. Work up wind or increase ventilation. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labeled containers or drums for disposal.

LARGE SPILLS

Slippery when spilt. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contamination. Contain using sand and soil - prevent runoff into drains and waterways. Use absorbent (soil, sand or inert material). Collect and seal in properly labelled containers for disposal. Caution - heat may be evolved on contact with water. If contamination of sewers or waterways has occurred advise the local emergency services.

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Dangerous Goods – Initial Emergency Response Guide No: 37.

7. HANDLING AND STORAGE

Handling: Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

Storage: Keep containers closed at all times. Store away from acids and ammonium salts. Do not store in aluminium or galvanised containers or use die-cast zinc or aluminium bungs. Steel bungs should be used. Reacts exothermically with water. Heat evolved may cause boiling and spattering. At temperatures greater than 40 C tanks must be stressed relieved. Check regularly for spills and leaks. Over a period of time, sludge may develop in the base of storage tanks. The sludge may contain mercury in a finely divided form, spread throughout the particulate matter in the sludge.

This material is classified as a Dangerous Good Class 8 Corrosive as per the criteria of the Australian Dangerous Goods Code and must be stored in accordance with the relevant regulations.

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits

No value assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC Australia).

However for:

	TWA		STEL		CARCINOGEN	NOTICES
	ppm	mg/m3	ppm	mg/m3	CATEGORY	
Sodium hydroxide	-	2	Peak limitation	-	-	-

As published by the National Occupational Health & Safety Commission (NOHSC Australia).

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

Peak Limitation - a ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These 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.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

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Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC: 1005 (1994)]" the ingredients in this material do not have a Biological Limit Allocated.

Engineering measures: Maintain air concentrations below recommended Exposure Standards. Avoid generating and inhaling mists and aerosols. Keep containers closed when not in use.

Personal protection equipment: OVERALLS, RUBBER BOOTS, FACE SHIELD, GLOVES, APRON.

Avoid all contact. Wear overalls, face shield, elbow-length impervious gloves, splash apron and rubber boots (leather is attacked). Available information suggests that gloves made from nitrile, neoprene, or natural rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, a final assessment should be made by the user. Use with adequate ventilation. Avoid generating and inhaling mists and aerosols. If risk of inhalation of spray mists exists, wear respirator meeting the requirements of AS 1715 and AS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and protective equipment before storing or re-using.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: Water-white to slightly coloured liquid.

Solubility:	Miscible with water
Specific Gravity (20 °C):	1.48 - 1.52
Relative Vapour Density (air=1):	N App
Vapour Pressure (20 °C):	N App
Flash Point:	N App
Flammability Limits (%):	N App
Autoignition Temperature (°C):	N App
Melting Point/Range (°C):	12
Boiling Point/Range (°C):	140
pH:	approx. 14
Viscosity:	N Av

(Typical values only - consult specification sheet)

N Av = Not available

N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible Materials: Corrosive to aluminium, zinc and tin, liberating flammable hydrogen gas. Absorbs carbon dioxide from air. Reacts exothermically on dilution with water.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: Reacts violently with acids. Reacts with ammonium salts liberating ammonia gas.

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11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Inhalation of mists will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary oedema, pneumonitis and emphysema. Inhalation of mists at elevated temperatures will increase these symptoms.

Skin contact: Contact with skin will result in severe irritation. Repeated or prolonged skin contact may lead to irritant contact dermatitis. Corrosive to skin - may cause skin burns. Skin contact often does not cause pain, thus care should be taken to avoid contaminating gloves and boots.

Eye contact: A severe eye irritant. Contamination of the eyes can result in permanent injury. Corrosive to eyes; contact can cause corneal burns.

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, swelling of the larynx and subsequent suffocation, perforation of the gastrointestinal tract, cardiovascular collapse and coma.

Long Term Effects: Chronic effects are unlikely due to the severity of acute effects.

Acute toxicity / Chronic toxicity

No LD50 data available for product, however, for the component solid sodium hydroxide:

Intraperitoneal LD50(mouse): 40 mg/kg

Oral Lowest Lethal Dose (rabbit): 500 mg/kg

SKIN (rabbit): severe irritation 500 mg/24H

EYES (rabbit): severe irritation 1 mg/30 sec rinse

Highly corrosive to any tissue with which it comes into contact.

Produces burns, deep ulceration and gelatinous necrotic areas at the site of contact. Low systemic toxicity.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Refer to State Land Waste Management Authority. Empty containers must be decontaminated. Can be dissolved carefully in water and greatly diluted or carefully neutralised with dilute acid and flushed to drain with copious amounts of water. Alternatively, normally suitable for disposal at approved land waste site.

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14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail.

UN No: 1824
Class-primary: 8 Corrosive
Packing Group: II
Hazchem Code: 2R

Proper Shipping Name: SODIUM HYDROXIDE SOLUTION

Segregation Dangerous Goods: Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity, however exemptions may apply. Note that concentrated strong alkalis are incompatible with concentrated strong acids.

MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN No: 1824
Class-primary: 8 Corrosive
Packing Group: II

Proper Shipping Name: SODIUM HYDROXIDE SOLUTION

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN No: 1824
Class-primary: 8 Corrosive
Packing Group: II

Proper Shipping Name: SODIUM HYDROXIDE SOLUTION

15. REGULATORY INFORMATION

Poisons Schedule (Aust): S6

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

This material safety data sheet has been prepared by Chemical Data Services Pty Ltd.

Reason(s) for Issue: >5 year review

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DISCLAIMER

This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since AVC Trading Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company. Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.