

Material Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: CAUSTIC SODA - LIQUID (46%-50%)

Other name(s): Sodium hydroxide - liquid (46%-50%), Soda lye solution (46%-50%), Caustic soda solution (46%-50%), Sodium hydroxide solution (46%-50%), Liquid caustic soda (46%-50%), LCS 46%, Rezolv 46, Algane C46.

Recommended Use: Chemical manufacture; neutralising agent; pulp and paper, aluminium, detergent, and textile processing; vegetable oil refining; reclaiming rubber; etching and electroplating; food additive.

Supplier: Orica Australia Pty Ltd

ABN: 004 117 828

Street Address: 1 Nicholson Street,
Melbourne 3000
Australia

Telephone Number: +61 3 9665 7111

Facsimile: +61 3 9665 7937

Emergency Telephone: 1 800 033 111 (ALL HOURS)

2. HAZARDS IDENTIFICATION

This material is hazardous according to criteria of ASCC; HAZARDOUS SUBSTANCE.

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

Risk Phrases: Causes severe burns. Risk of serious damage to eyes.

Safety Phrases: Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).

Poisons Schedule: S6 Poison.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components / CAS Number	Proportion	Risk Phrases
Sodium hydroxide 1310-73-2	46-50%	R35, R41

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008

Version: 4

Material Safety Data Sheet



Water
7732-18-5

50-54%

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (Phone eg. Australia 131 126; New Zealand 0 800 764766) or a doctor.

Inhalation: Remove victim from area of 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: If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

Eye Contact: 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.

Ingestion: Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

Medical attention and special treatment: Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Hazards from combustion products: Non-combustible material.

Precautions for fire fighters and special protective equipment: Not combustible, however following evaporation of aqueous component residual material can decompose if involved in a fire, emitting toxic fumes. Contact with metals may liberate hydrogen gas which is extremely flammable. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

Suitable Extinguishing Media: Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem Code: 2R

6. ACCIDENTAL RELEASE MEASURES

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008 **Version:** 4

Material Safety Data Sheet

Emergency procedures: Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Methods and materials for containment and clean up: Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. Caution - heat may be evolved on contact with water.

7. HANDLING AND STORAGE

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

Conditions for safe storage: Store in cool place and out of direct sunlight. Store away from incompatible materials described in Section 10. Store away from foodstuffs. Do not store in aluminium or galvanised containers nor use die-cast zinc or aluminium bungs; plastic bungs should be used. At temperatures greater than 40°C, tanks must be stress relieved. Keep containers closed when not in use - check regularly for leaks.

Precautions for safe handling: Avoid skin and eye contact and breathing in vapour, mists and aerosols.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for constituent(s):

Sodium hydroxide: Peak Limitation = 2 mg/m³

As published by the National Occupational Health and Safety Commission.

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.

These 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 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.

Engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. If inhalation risk exists: Use with local exhaust ventilation or while wearing suitable mist respirator. Keep containers closed when not in use.

Personal Protective Equipment:

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008

Version: 4

Material Safety Data Sheet

The selection of PPE is dependant on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Orica Personal Protection Guide No. 1, 1998: D - OVERALLS, RUBBER BOOTS, CHEMICAL GOGGLES, FACE SHIELD, SAFETY SHOES, GLOVES (Long), APRON.



Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

If risk of inhalation exists, wear suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Colourless to Slightly Coloured
Solubility:	Miscible with water.
Specific Gravity:	1.48-1.52 @20°C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	1.34 mm Hg (calculated)
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Boiling Point/Range (°C):	ca. 145 (literature)
pH:	14 (literature)
Freezing Point/Range (°C):	ca. 12 (calculated)

10. STABILITY AND REACTIVITY

Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Absorbs carbon dioxide from the air.
Conditions to avoid:	Avoid exposure to moisture.
Incompatible materials:	Incompatible with aluminium , ammonium salts , tin , and zinc .
Hazardous decomposition products:	None known.

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008

Version: 4

Material Safety Data Sheet

Hazardous reactions: Reacts violently with acids . Reacts exothermically on dilution with water. Reacts readily with various reducing sugars (i.e. fructose, galactose, maltose, dry whey solids) to produce carbon monoxide. Take precautions including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel before vessel entry.

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:

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.

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

Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.

Inhalation: Breathing in mists or aerosols may produce respiratory irritation.

Long Term Effects:

No information available for the product.

Toxicological Data:

No LD50 data available for the product. For the constituent Sodium hydroxide :

SKIN: Severe irritant (rabbit).

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Decontamination and destruction of containers should be considered.

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; DANGEROUS GOODS.



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

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008 **Version:** 4

Material Safety Data Sheet

16. OTHER INFORMATION

'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2008.

This material safety data sheet has been prepared by SH&E Shared Services, Orica.

Reason(s) for Issue:

Change in Stability and Reactivity requirements

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Orica Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Orica representative or Orica Limited at the contact details on page 1.

Orica Limited's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008

Version: 4

Material Safety Data Sheet

Proper Shipping Name: SODIUM HYDROXIDE SOLUTION
Hazchem Code: 2R

Marine Transport

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

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; DANGEROUS GOODS.

UN No: 1824
Class-primary: 8 Corrosive
Packing Group: II
Proper Shipping Name: SODIUM HYDROXIDE SOLUTION

15. REGULATORY INFORMATION

Classification: This material is hazardous according to criteria of ASCC; HAZARDOUS SUBSTANCE.

Hazard Category: C: Corrosive

Risk Phrase(s): R35: Causes severe burns.
R41: Risk of serious damage to eyes.

Safety Phrase(s): S24/25: Avoid contact with skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).

Poisons Schedule: S6 Poison.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

Product Name: CAUSTIC SODA - LIQUID (46%-50%)
Substance No: 000031006701

Issued: 14/10/2008

Version: 4