

SAFETY DATA SHEET



Revision date: 28-Nov-2023

Revision Number 8

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name	CAUSTIC SODA - LIQUID (46%-50%)
Product Code(s)	000031006701
Synonyms	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%, Algane C46
Recommended use	Chemical manufacture; neutralising agent; pulp and paper, aluminium, detergent, and textile processing; vegetable oil refining; reclaiming rubber; etching and electroplating.

Supplier

Ixom Central Pacific Ltd
Company Number: 1030
Street Address: Lots 3&4 Wailada Industrial Estate
Lami
Fiji
Telephone Number: +67 9 336 1144
Facsimile: +67 9 336 1500

Emergency telephone number +61 3 9663 2130 (International, Australia, All Hours)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

GHS Classification

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Corrosive to metals	Category 1
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

SIGNAL WORD

Danger

Label elements

Corrosion
Exclamation mark

**Hazard statements**

H290 - May be corrosive to metals
 H314 - Causes severe skin burns and eye damage
 H335 - May cause respiratory irritation

Precautionary Statements - Prevention

Keep only in original container
 Do not breathe fume, gas, mist, vapours, spray
 Wash face, hands and any exposed skin thoroughly after handling
 Use only outdoors or in a well-ventilated area
 Wear protective gloves / protective clothing / eye protection / face protection

Precautionary Statements - Response

Specific treatment (see First aid on this SDS)
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 Get immediate medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
 Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up
 Store in corrosion resistant container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification**General Hazards**

Poisons Schedule (SUSMP) 6

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical name	CAS No.	Weight-%
Sodium hydroxide	1310-73-2	46-50%
Water	7732-18-5	50-54%

4. FIRST AID MEASURES**Description of first aid measures****General advice**

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Burning. Coughing and/ or wheezing. Difficulty in breathing.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Can cause corneal burns. Aspiration of vomitus may cause lung injury. No specific antidote.
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5. FIRE FIGHTING MEASURES**Suitable Extinguishing Media**

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
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Unsuitable extinguishing media	No information available.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Contact with metals may evolve flammable hydrogen gas.
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Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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Hazchem code	2R
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6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Evacuate personnel to safe areas. Avoid contact with skin, eyes and inhalation of vapors. Ensure adequate ventilation. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use personal protective equipment as required. Wash thoroughly after handling.
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For emergency responders	Use personal protection recommended in Section 8.
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Environmental precautions

Environmental precautions	Local authorities should be advised if significant spillages cannot be contained.
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Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Avoid contact with skin and eyes. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Keep out of reach of children. Ensure adequate ventilation. Use personal protection equipment. Wash thoroughly after handling.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. 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 container closed when not in use.
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This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

Packaging materials	Do not store in aluminium containers. Do not store in tin containers. Do not store in zinc containers.
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Incompatible materials	Ammonium salts. Aluminium. Tin. Zinc. Strong acids. Copper. Copper alloys.
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Poisons Schedule (SUSMP)	6
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits	No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):
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Sodium hydroxide: Peak Limitation = 2 mg/m³

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

Peak Limitation - a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

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.

Appropriate engineering controls

Engineering controls	Ensure that eyewash stations and safety showers are close to the workstation location. Apply technical measures to comply with the occupational exposure limits.
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If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and

the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent 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.

OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.



Eye/face protection	Tight sealing safety goggles. If splashes are likely to occur: Face protection shield.
Skin and body protection	Rubber boots. Overalls. Apron.
Hand protection	Elbow-length impervious gloves.
Respiratory protection	If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Environmental exposure controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear to Slightly turbid
Color	Colourless
Odor	Odourless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	14 (literature)	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	ca. 12°C (calculated)	None known
Boiling point / boiling range	ca. 145°C (literature)	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapor pressure	1.34 mm Hg @20°C (calculated)	None known
Vapor density	No data available	None known
Relative density	1.48-1.52 @20°C	None known
Water solubility	Miscible in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	Not applicable	None known

Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information**10. STABILITY AND REACTIVITY**Reactivity

Reactivity Reacts with strong acids. Reacts exothermically on dilution with water.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Contact with metals (aluminum, zinc, tin) may release hydrogen gas. Reacts with ammonium salts, evolving ammonia gas. 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.

Conditions to avoid

Conditions to avoid Do not contaminate food or feed stuffs.

Incompatible materials

Incompatible materials Ammonium salts. Aluminium. Tin. Zinc. Strong acids. Copper. Copper alloys.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

11. TOXICOLOGICAL INFORMATIONAcute toxicityInformation on likely routes of exposure

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

Inhalation Irritating to respiratory system.

Eye contact Causes serious eye damage.

Skin contact Contact causes severe skin irritation and possible burns.

Ingestion Can burn mouth, throat, and stomach.

Symptoms Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness).

Burning. Coughing and/ or wheezing. Difficulty in breathing.

Numerical measures of toxicity - Product Information

Refer to component information below.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hydroxide	-	= 1350 mg/kg (Rabbit)	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes burns. Classification is based on mixture calculation methods based on component data.
Serious eye damage/eye irritation	Causes serious eye damage. Classification is based on mixture calculation methods based on component data.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	Not listed as carcinogenic according to IARC. (IARC - International Agency for Research on Cancer).
Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation. Classification is based on mixture calculation methods based on component data.
STOT - repeated exposure	No information available.
Aspiration hazard	Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium hydroxide	-	LC50: =45.4mg/L (96h, Oncorhynchus mykiss)	-	-

Persistence and degradability

Persistence and degradability Biodegradation is not an applicable endpoint since the product is an inorganic substance.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

Other adverse effects

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADG

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

UN number	1824
Proper shipping name	SODIUM HYDROXIDE SOLUTION
Hazard class	8
Packing group	II
Hazchem code	2R

IATA

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

UN number	1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	8
Packing group	II

IMDG

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

UN number	1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	8
Packing group	II
IMDG EMS Fire	F-A
IMDG EMS Spill	S-B
Marine pollutant	No

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Australia

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule (SUSMP) 6

International Inventories

AIIC All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

NZIoC All the constituents of this material are listed on the New Zealand Inventory of Chemicals.

Legend:

AIIC- Australian Inventory of Industrial Chemicals

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. OTHER INFORMATION

Reason(s) For Issue: 5 Yearly Revised Primary SDS

Issuing Date: 28-Nov-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian Industrial Chemicals Introduction Scheme (AICIS)
 NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

This SDS 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 Ixom Operations Pty Ltd 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 Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

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

End of Safety Data Sheet