



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

<b>Product Name</b>	<b>Caustic Soda Solution</b>
<b>CAS #</b>	Mixture
<b>Product use</b>	Neutralizer. Industrial cleaner. Pulping and bleaching. Soap manufacturing.
<b>Manufacturer</b>	Olin Chlor Alkali Products 2400 Buffalo Ave. P.O. Box 748 Niagara Falls, NY 14302 US Phone: 1-800-298-6546
<b>Supplier</b>	SODROX Chemicals Ltd. 7040 Wellington Road 124, R.R. #6 Guelph, ON N1H 6J3 Canada Business Phone: 519-837-2330 Fax: 519-837-3300 Emergency Phone: 1-800-363-6824

## 2. Hazards Identification

<b>Emergency overview</b>	DANGER CAUSES EYE BURNS. CAUSES SKIN BURNS. MAY BE FATAL IF SWALLOWED OR INHALED.
<b>Potential short term health effects</b>	
<b>Routes of exposure</b>	Eye, Skin contact, Inhalation, Ingestion.
<b>Eyes</b>	Causes chemical burns. May cause blindness.
<b>Skin</b>	Causes chemical burns.
<b>Inhalation</b>	Inhalation of mist may cause respiratory tract irritation, coughing or headache.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Target organs</b>	Eyes. Respiratory system. Skin.
<b>Chronic effects</b>	Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.
<b>Signs and symptoms</b>	The product causes burns of eyes, skin and mucous membranes.
<b>OSHA Regulatory Status</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
<b>Potential environmental effects</b>	See section 12.

## 3. Composition / Information on Ingredients

<b>Ingredient(s)</b>	<b>CAS #</b>	<b>Percent</b>
Sodium hydroxide	1310-73-2	30 - 60

## 4. First Aid Measures

<b>First aid procedures</b>	
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention immediately.
<b>Skin contact</b>	Immediately flush skin with running water for at least 20 minutes. Remove contaminated clothing, including shoes, after flushing has begun. Obtain medical attention if irritation persists.
<b>Inhalation</b>	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
<b>Notes to physician</b>	Symptoms may be delayed.

**General advice**

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear impervious gloves and chemical splash goggles. Keep out of reach of children.

## 5. Fire Fighting Measures

<b>Flammable properties</b>	Not flammable by WHMIS/OSHA criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Treat for surrounding material.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	Irritating and/or toxic gases may be emitted upon the products decomposition.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

## 6. Accidental Release Measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for containment</b>	Stop leak if you can do so without risk.
<b>Methods for cleaning up</b>	Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

## 7. Handling and Storage

<b>Handling</b>	<p>DANGER -- CORROSIVE</p> <p>Use good industrial hygiene practices in handling this material.</p> <p>Do not get in eyes, on skin or on clothing.</p> <p>Avoid breathing vapors or mists of this product.</p> <p>Use only with adequate ventilation.</p> <p>Wash thoroughly after handling.</p>
<b>Storage</b>	Keep out of the reach of children. Keep in a dry, cool and well-ventilated place. Store in a closed container away from incompatible materials.

## 8. Exposure Controls / Personal Protection

<b>Exposure limits</b>	
<b>Ingredient(s)</b>	<b>Exposure Limits</b>
Sodium hydroxide	<p><b>ACGIH-TLV</b></p> <p>Ceiling: 2 mg/m<sup>3</sup></p> <p><b>OSHA-PEL</b></p> <p>TWA: 2 mg/m<sup>3</sup></p>
<b>Engineering controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Wear chemical goggles and face shield.
<b>Hand protection</b>	Impervious gloves. Confirm with reputable supplier first.

<b>Skin and body protection</b>	Use of an impervious apron is recommended.
<b>Respiratory protection</b>	If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
<b>General hygiene considerations</b>	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

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## 9. Physical and Chemical Properties

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<b>Appearance</b>	Clear to slightly turbid
<b>Color</b>	Colourless
<b>Form</b>	Liquid
<b>Odor</b>	Odourless
<b>Odor threshold</b>	Not available
<b>Physical state</b>	Liquid
<b>pH</b>	14 (5% Aqueous solution)
<b>Melting point</b>	Not available
<b>Freezing point</b>	53.60 °F (12 °C) (50% solution)
<b>Boiling point</b>	284.00 °F (140 °C) (50% solution)
<b>Pour point</b>	Not available
<b>Evaporation rate</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Auto-ignition temperature</b>	Not applicable
<b>Flammability limits in air, lower, % by volume</b>	Not applicable
<b>Flammability limits in air, upper, % by volume</b>	Not applicable
<b>Vapor pressure</b>	0.2 KPa (1.5 MmHg) @20°C (68°F) (50% solution)
<b>Vapor density</b>	Not applicable
<b>Specific gravity</b>	1.53 @ 15.5°C (60°F) (50% solution) (H2O = 1)
<b>Octanol/water coefficient</b>	Not available
<b>Solubility (H2O)</b>	Soluble in all proportions
<b>Viscosity</b>	78.3 Cp @20°C (68°F)
<b>Bulk density</b>	95.5 lb/cu ft
<b>Percent volatile</b>	Not available
<b>Molecular weight</b>	40.01 g/mol
<b>Molecular formula</b>	NaOH

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## 10. Stability and Reactivity

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<b>Reactivity</b>	Reacts violently with acids. This product may react with oxidizing agents.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Do not mix with other chemicals.
<b>Incompatible materials</b>	Acids. Oxidizing agents.
<b>Hazardous decomposition products</b>	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

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## 11. Toxicological Information

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### Component analysis - LC50

Ingredient(s)	LC50
Sodium hydroxide	Not available

### Component analysis - Oral LD50

Ingredient(s)	LD50
Sodium hydroxide	Not available

**Effects of acute exposure**

<b>Eye</b>	Causes chemical burns. May cause blindness.
<b>Skin</b>	Causes chemical burns.
<b>Inhalation</b>	Inhalation of mist may cause respiratory tract irritation, coughing or headache.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Sensitization</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Carcinogenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Mutagenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Name of Toxicologically Synergistic Products</b>	Not available

## 12. Ecological Information

<b>Ecotoxicity</b>	Components of this product have been identified as having potential environmental concerns.
<b>Ecotoxicity - Freshwater Fish - Acute Toxicity Data</b>	
Sodium hydroxide	1310-73-2 96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static]
<b>Persistence / degradability</b>	Not available
<b>Bioaccumulation / accumulation</b>	Not available
<b>Mobility in environmental media</b>	Not available
<b>Environmental effects</b>	Harmful to aquatic life.
<b>Aquatic toxicity</b>	Not available
<b>Partition coefficient</b>	Not available
<b>Chemical fate information</b>	Not available
<b>Other adverse effects</b>	Not available

## 13. Disposal Considerations

<b>Disposal instructions</b>	Review federal, state/provincial, and local government requirements prior to disposal.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

## 14. Transport Information

**U.S. Department of Transportation (DOT)****Basic shipping requirements:**

<b>Proper shipping name</b>	Sodium hydroxide solution
<b>Hazard class</b>	8
<b>UN number</b>	1824
<b>Packing group</b>	II
<b>Additional information:</b>	
<b>Special provisions</b>	B2, IB2, N34, T7, TP2
<b>Packaging exceptions</b>	154



## Transportation of Dangerous Goods (TDG - Canada)

### Basic shipping requirements:

Proper shipping name	SODIUM HYDROXIDE SOLUTION
Hazard class	8
UN number	1824
Packing group	II



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## 15. Regulatory Information

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**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canadian Food Inspection Agency - Letter of No Objection for Non-Food Chemicals received.

### Canada - WHMIS - Ingredient Disclosure List

Sodium hydroxide	1310-73-2	1 %
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**WHMIS status** Controlled  
**WHMIS classification** Class E - Corrosive Material  
**WHMIS labeling**



### Occupational Safety and Health Administration (OSHA)

**29 CFR 1910.1200 hazardous chemical** Yes

**US Federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Sodium hydroxide	1310-73-2	1000 Lb final RQ; 454 kg final RQ
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### CERCLA (Superfund) reportable quantity

Sodium hydroxide: 1000.0000

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 302 extremely hazardous substance** Yes

**Section 311 hazardous chemical** Yes

**Clean Air Act (CAA)** Not available

**Clean Water Act (CWA)** Hazardous substance

**State regulations**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances**

Sodium hydroxide 1310-73-2 Present

**U.S. - Louisiana - Reportable Quantity List for Pollutants**

Sodium hydroxide 1310-73-2 1000 Lb final RQ; 454 kg final RQ

**U.S. - Massachusetts - Right To Know List**

Sodium hydroxide 1310-73-2 Present

**U.S. - Minnesota - Hazardous Substance List**

Sodium hydroxide 1310-73-2 Present

**U.S. - New Jersey - Right to Know Hazardous Substance List**

Sodium hydroxide 1310-73-2 sn 1706

**U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances**

Sodium hydroxide 1310-73-2 1000 Lb RQ (air); 100 lb RQ (land/water)

**U.S. - Pennsylvania - RTK (Right to Know) List**

Sodium hydroxide 1310-73-2 Environmental hazard

**U.S. - Rhode Island - Hazardous Substance List**

Sodium hydroxide 1310-73-2 Toxic (caustic); Flammable (caustic)

**Inventory name**

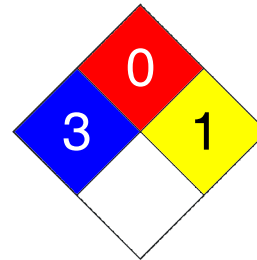
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**16. Other Information**

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 3
Flammability	0
Physical Hazard	1
Personal Protection	X



**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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**Prepared by**

Dell Tech Laboratories Ltd. (519) 858-5021

## Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

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