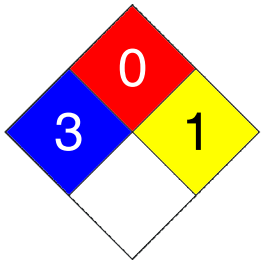
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name	**Sodium Hydroxide 50% (Synonyms: Caustic soda, Liquid Caustic, Lye, Soda lye, Sodium hydrate, White caustic)**
CAS #	Mixture
Product Use	Industrial applications
Distributor	Benson Chemicals Ltd. RR#1 Freelton ON L0R1K0 CA Phone: 1-800-265-0014 Emergency Services (24 hours / 7 days) 1-519-821-0215 Emergency Responder 1-800-567- 7455 Newalta Industrial SVC

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



2. Hazards Identification

Emergency Overview	DANGER -- CORROSIVE
Potential short term health effects	
Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	Causes chemical burns. May cause blindness.
Skin	Causes chemical burns. Harmful contact may not cause immediate pain.
Inhalation	May cause respiratory tract irritation.
Ingestion	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
Target organs	Eyes. Respiratory system. Skin.
Chronic effects	Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.
Signs and symptoms	The product causes burns of eyes, skin and mucous membranes.

3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium hydroxide	1310-73-2	30 - 60

4. First Aid Measures

First aid procedures	
Eye contact	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 20 minutes. Obtain medical attention immediately.
Skin contact	Immediately flush with cool water for 20 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion	Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

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

Flammable properties	Not flammable by WHMIS criteria. Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Carbon dioxide.
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighers	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of sodium.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	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.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	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 in original containers for re-use.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
Storage	Keep out of the reach of children.Store in a closed container away from incompatible materials. Keep in a dry, cool and well-ventilated place.

8. Exposure Controls / Personal Protection

Exposure limit values

Ingredient(s)	Exposure limit values
Sodium hydroxide	**ACGIH-TLV** Ceiling: 2 mg/m3

Engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Personal protective equipment	
Eye/Face protection	Chemical splash goggles.
Hand protection	Impervious gloves. Confirm with reputable supplier first.
Skin and body protection	Use of an impervious apron is recommended.
Respiratory protection	If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
General hygiene considerations	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.

9. Physical & Chemical Properties

Appearance	Clear to slightly turbid
Colour	Colourless
Form	Liquid
Odour	Odourless
Odour threshold	Not available
Physical state	Liquid
pH	14 (5% Aqueous solution)
Melting point	318 °C (604.40 °F)
Freezing point	12 °C (53.60 °F)
Boiling point	140 °C (284.00 °F)
Flash point	Not applicable
Evaporation Rate	Not available
Flammability limits in air, lower, % by volume	Not applicable
Flammability Limits in Air, Upper, % by Volume	Not applicable
Vapour pressure	0.2 kPa (1.5 mmHg) @20°C
Vapour density	Not applicable
Specific gravity	1.53 (H2O = 1)
Relative density	2.13 g/cm3
Octanol/water coefficient	Not available
Solubility (H2O)	Complete
Auto-ignition temperature	Not applicable
Viscosity	78.3 cp @20°C
Bulk density	95.5 lb/cu ft
Molecular weight	40.01 g/mol
Molecular formula	NaOH

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Reacts violently with acids. This product may react with oxidizing agents. Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizing agents. Reacts with soft metals producing flammable hydrogen gas.
Hazardous decomposition products	May include and are not limited to: Oxides of sodium. Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Sodium hydroxide	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Sodium hydroxide	140 mg/kg rat

Effects of acute exposure

Eye	Causes chemical burns. May cause blindness.
Skin	Causes chemical burns. Harmful contact may not cause immediate pain.
Inhalation	May cause respiratory tract irritation.
Ingestion	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
Sensitisation	Non-hazardous by WHMIS criteria.

Local effects	Toxic if swallowed.
Chronic effects	Non-hazardous by WHMIS criteria.
Carcinogenicity	Non-hazardous by WHMIS criteria.
Mutagenicity	Non-hazardous by WHMIS criteria.
Reproductive effects	Non-hazardous by WHMIS criteria.
Teratogenicity	Non-hazardous by WHMIS criteria.

12. Ecological Information

Ecotoxicity	Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental effects	Harmful to aquatic life.
Aquatic toxicity	Not available
Persistence and degradability	Not available
Bioaccumulation/accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available
Other adverse effects	Not available

13. Disposal Considerations

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

14. Transport Information

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

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

15. Regulatory Information

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.

Canada - WHMIS - Ingredient Disclosure List

Sodium hydroxide	1310-73-2	1 %

WHMIS classification	Class E - Corrosive Material
WHMIS status	Controlled

WHMIS labeling

Inventory Status

Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

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

16. Other Information

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