Sodium Hydroxide 50% w/w

SECTION 1. IDENTIFICATION

Product Identifier	Sodium Hydroxide 50% w/w
Other Means of Identification	Caustic Soda, Sodium Hydrate
Product Code(s)	SO3610, SO3611
Product Family	Inorganic Solid
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours CHEMTREC, 800-424-9300, 24 Hours
SDS No.	0056

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

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

Label Elements

Signal Word:
Danger

Hazard Statement(s):
May be corrosive to metals.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary Statement(s):
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash hands and skin thoroughly after handling.
Wear protective gloves/eye protection/face protection.
Use only outdoors or in a well-ventilated area.
Keep only in original container.

Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Sodium hydroxide	1310-73-2	50	Caustic Soda Solution, Sodium Hydrate
Water	7732-18-5	50	Dihydrogen Oxide

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. DO NOT INTERRUPT FLUSHING. If it can be done safely, continue flushing during transport to hospital.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Quickly and gently blot or brush chemical off the face. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

If in eyes: contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. If on skin: repeated or prolonged exposure can irritate or burn the skin. If inhaled: can cause severe lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. If swallowed: aspiration hazard. May be drawn into the lungs if swallowed or vomited, causing severe lung damage. Death can result.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media

DO NOT use carbon dioxide, or other agents that smother the flames.

Specific Hazards Arising from the Product

Heating increases the reactivity hazard. Heating increases the release of toxic vapour.
In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Do NOT apply water directly to spill. Dike and recover contaminated water for appropriate disposal.

Fire-fighters should enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.) chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: get expert advice. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Remove or isolate incompatible materials as well as other hazardous materials. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Only use where there is adequate ventilation. Avoid breathing in this product. Avoid repeated or prolonged skin contact. Do not get in eyes, on skin or on clothing.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Store in the original, labelled, shipping container. Vent drums to prevent pressure buildup.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Sodium hydroxide		2 mg/m3	2 mg/m3			
Water	Not established		Not established			

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Suitable materials are: butyl rubber, natural rubber, neoprene rubber, nitrile rubber, polyethylene, polyvinyl chloride, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Trellchem® HPS, Trellchem® VPS, Tychem® SL (Saranex™), Tychem® BR/LV, Tychem® Responder, Tychem® TK.
The following materials should NOT be used: polyvinyl alcohol.

Respiratory Protection

Wear a powered air-purifying respirator with an appropriate cartridge, wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Odourless
Odour Threshold	Not available
pH	12.0
Melting Point/Freezing Point	5.0 - 10.6 ºC (41.0 - 51.1 ºF) (melting)
Initial Boiling Point/Range	141.7 ºC (287.1 ºF)
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	3 mm Hg
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	1.53
Solubility	Soluble in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Acidic conditions (low pH), heat.

Conditions to Avoid

Heat. Incompatible materials. Acidic conditions (low pH).

Incompatible Materials

Acid anhydrides (e.g. acetic anhydride), metals (e.g. aluminum).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Sodium hydroxide	Not available	Not available	1350 mg/kg (rabbit)

Water		> 89840 mg/kg (rat)	

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

Animal tests show moderate or severe irritation.

Serious Eye Damage/Irritation

Animal tests show serious eye damage.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Causes nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

No information was located.

Ingestion

Can cause effects as described for inhalation. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. In severe cases, symptoms may include paleness, abdominal pain, weakness, fever, shortness of breath, rapid heart rate, dark urine and yellowish eyes and skin.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Irritation of the respiratory system. May cause respiratory tract injury.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Sodium hydroxide	Not Listed	Not Listed	Not Listed	Not Listed
Water	Not Listed	Not Listed	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. Treat waste in an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1824	Sodium Hydroxide 50% Solution	8	II

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Alphachem Limited
Phone No.	(905)-821-2995
Date of Preparation	August 05, 2015
Date of Last Revision	January 08, 2016
Revision Indicators	The following SDS content was changed on January 08, 2016:
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