Sodium Hydroxide (solid)

SECTION 1. IDENTIFICATION

Product Identifier	Sodium Hydroxide (solid)
Other Means of Identification	Caustic Soda Solid, Lye, Sodium Hydrate Solid
Product Code(s)	SO3620, SO3630, SO3631, SO3635, SO3640, SO3641
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
SDS No.	0042

SECTION 2. HAZARD IDENTIFICATION

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

Classification

Skin corrosion - Category 1A; Serious eye damage - Category 1

Label Elements

Signal Word:
Danger

Hazard Statement(s):
May be corrosive to metals.
Causes severe skin burns and eye damage.
Harmful if swallowed.
Harmful if inhaled.
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):
Wear protective gloves/protective clothing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of water.
Immediately call a POISON CENTRE or doctor.
Do not allow contact with water.

Keep only in original container.
Do not get in eyes, on skin, or on clothing.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Sodium hydroxide	1310-73-2	100	Caustic Soda Solid, Sodium Hydrate Solid

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Immediately rinse skin with lukewarm, gently flowing water for at least 60 minutes.

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 60 minutes, while holding the eyelid(s) open.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: can cause severe irritation of the nose and throat. Can cause severe lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result. If in eyes: may cause serious eye damage. May irritate or burn the eyes. Permanent damage including blindness may result. If swallowed: can irritate the mouth, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

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

Forms corrosive chemicals on contact with water. Forms toxic chemicals on contact with water. Closed containers may rupture violently when heated releasing contents. Explosive; severe projection hazard.
Toxic, corrosive chemicals; flammable hydrogen.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Approach fire from upwind to avoid hazardous vapours or gases. Do NOT apply water directly to spill. Knock down vapours or gases with water fog or fine water spray. Dike and recover contaminated water for appropriate disposal. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. 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

Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Wear adequate personal protective equipment.
Remove or isolate incompatible materials.
Notify government occupational health and safety and environmental authorities.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Shovel or sweep up dry sodium hydroxide for recycling or disposal. Neutralize the final traces and flush area with water. Solutions should be contained by diking with inert material, such as sand or earth. Solutions can be recovered or carefully diluted with water and cautiously neutralized with acids such as acetic acid or hydrochloric acid.
Large spills: contact fire and emergency services and supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Never add water to a corrosive. Always add corrosives slowly to COLD water. Do not get in eyes, on skin or on clothing. Prevent accidental contact with incompatible chemicals. Avoid generating dusts. Prevent accidental contact with incompatible chemicals. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Keep containers tightly closed when not in use or empty.

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. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Keep amount in storage to a minimum. Comply with all applicable health and safety regulations, fire and building codes.

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			

Appropriate Engineering Controls

Use mechanical exhaust or laboratory fumehood to avoid exposure. 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 NIOSH approved air-purifying respirator with N100, R100, or P100 filter(s).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	White pellets.
Odour	Odourless
Odour Threshold	Not available
pH	14 (5% solution)
Melting Point/Freezing Point	323 °C (613 °F) (melting); 323 °C (613 °F) (freezing)
Initial Boiling Point/Range	1390 °C (2534 °F)
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not applicable
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	2.1300
Solubility	109 g/100 mL (Very soluble) in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	Not applicable
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not applicable (kinematic); Not applicable (dynamic)

Other Information

Physical State	Solid
Vapour Pressure at 50 deg C	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Spontaneously combustible on contact with water or water vapour.

Chemical Stability

Normally stable if kept dry.

Possibility of Hazardous Reactions

Reacts violently in the presence of water or humidity. Releases a large amount of heat.

Conditions to Avoid

Water, moisture or humidity. Generation of dust.

Incompatible Materials

Strong acids (e.g. hydrochloric acid), strong oxidizing agents (e.g. perchloric acid), acid anhydrides (e.g. acetic anhydride), ketones (e.g. acetone), water, ammonia, aldehydes (e.g. acetaldehyde), halogenated compounds (e.g. trichloroethylene).

Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions. - Sodium oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; skin absorption; eye contact; ingestion.

Acute Toxicity

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

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

Human experience and animal tests show skin corrosion.

Serious Eye Damage/Irritation

Causes serious eye damage based on skin corrosion information.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause severe nose and throat irritation, severe lung injury.

Skin Absorption

No information was located.

Ingestion

Causes severe irritation or burns to the mouth, throat and stomach, a laxative effect if large amounts are swallowed. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

Aspiration Hazard

No information was located.
No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Causes dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).

Respiratory and/or Skin Sensitization

Not known to be a skin sensitizer.

Carcinogenicity

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

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

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

Federal, provincial and local regulations should be reviewed prior to disposal. May be possible to neutralize, dilute and flush the material into a sewer. May be possible to atomize dilute solutions in an approved combustion chamber. Harmful to aquatic life in high concentrations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1823	Sodium Hydroxide or Caustic Soda, solid or flake	8 ; 9.2	II
Canadian TDG	UN1823	Sodium Hydroxide or Caustic Soda, solid or flake	8 ; 9.2	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
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