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Safety Data Sheet

Section 01 Identification

Product Identifier	Sodium Hydroxide Pearls
Other Means of Identification	Caustic soda; lye; sodium hydrate; CAS 1310-73-2
Product Use and Restrictions	Industrial chemical processing, pH adjustment, neutralization, cleaning, soap and detergent manufacture, and water treatment. For industrial and commercial use only.
Initial Supplier Identifier	Nexolent Solutions Inc. 10608 West 163rd Place Orland Park, IL 60467 United States Phone: 773.455.1996 www.nexolentsolutions.com
Prepared By	Nexolent Solutions Inc. - Technical Writer
24-Hour Emergency Phone	773.455.1996

Section 02 Hazard Identification

Classification under WHMIS 2015 / GHS

Hazard Class	Category
Skin corrosion	Category 1
Serious eye damage	Category 1

Signal Word	DANGER
Hazard Statements	H314 Causes severe skin burns and eye damage.



Pictogram

Section 02 Hazard Identification (continued)

Precautionary Statements

P260 Do not breathe dusts or mists.

P264 Wash hands and exposed skin thoroughly after handling.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P363 Wash contaminated clothing before reuse.

P405 Store locked up. P501 Dispose of contents/container in accordance with applicable regulations.

Hazards Not Otherwise Classified

Contact with water generates substantial heat. Contact with aluminum, zinc, tin and certain other metals may release flammable hydrogen gas.

Section 03 Composition / Information on Ingredients

Chemical Name	Common Name	CAS Number	Concentration (w/w%)
Sodium hydroxide	Caustic soda	1310-73-2	98-100%

Section 04 First-Aid Measures

Route	First-aid measures
Inhalation	Remove to fresh air. Keep at rest in a position comfortable for breathing. Immediately contact a poison centre or physician.
Ingestion	Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately contact a poison centre or physician.
Skin contact	Immediately remove contaminated clothing and footwear. Brush off loose material, then rinse skin with water or shower for at least 20 minutes. Obtain immediate medical attention.
Eye contact	Immediately rinse cautiously with lukewarm water for at least 30 minutes while holding eyelids open. Remove contact lenses if easy to do. Continue rinsing and obtain immediate medical attention.

Most Important Symptoms and Effects Severe burns, pain, redness, blistering, irreversible eye damage, coughing and respiratory irritation. Ingestion may cause corrosive injury to the mouth, throat, esophagus and stomach.

Immediate Medical Attention Treat symptomatically. Chemical burns may be delayed. Do not attempt chemical neutralization on skin or in eyes.

Section 05 Fire-Fighting Measures

Suitable Extinguishing Media Use extinguishing media appropriate for the surrounding fire. Product is not combustible.

Specific Hazards Heat from dissolution and reaction with acids may cause splattering. Reaction with certain metals may generate flammable hydrogen. Heating may produce corrosive sodium oxide fumes.

Fire-Fighter Protection Wear full protective clothing and positive-pressure self-contained breathing apparatus. Cool exposed containers with water spray from a safe distance; prevent water from entering containers.

Section 06 Accidental Release Measures

Personal Precautions / PPE	Evacuate unnecessary personnel. Avoid dust generation and all contact with skin and eyes. Provide ventilation. Wear chemical-resistant gloves, protective clothing, goggles/face shield and suitable respiratory protection when dust may be present.
Environmental Precautions	Prevent entry into drains, sewers, waterways and soil. Notify authorities if a significant release reaches the environment.
Containment and Cleanup	Do not use combustible absorbents. Carefully sweep or vacuum dry material using corrosion-resistant equipment and place in a compatible, labeled container. Avoid adding water directly to bulk spilled solid. Residues may be cautiously diluted and neutralized by trained personnel under controlled conditions.

Section 07 Handling and Storage

Precautions for Safe Handling	Do not breathe dust. Avoid contact with skin, eyes and clothing. Use only with adequate ventilation. Keep emergency eyewash and safety shower readily available. Add sodium hydroxide slowly to water with stirring and cooling; never add water to concentrated sodium hydroxide.
Conditions for Safe Storage	Store locked up in tightly closed, corrosion-resistant, moisture-resistant containers in a cool, dry, well-ventilated location. Protect from humidity, carbon dioxide, heat and incompatible materials. Keep away from acids and reactive metals.
Incompatible Materials	Acids; aluminum, zinc, tin and their alloys; ammonium salts; halogenated organic compounds; nitromethane; oxidizers; and moisture-sensitive materials.

Section 08 Exposure Controls and Personal Protection

Jurisdiction / Agency		Limit
ACGIH TLV-C		2 mg/m ³ (ceiling)
OSHA PEL		2 mg/m ³ (8-hour TWA)
NIOSH REL		2 mg/m ³ (ceiling)
Engineering Controls	Use local exhaust ventilation to control airborne dust or mist below occupational exposure limits. Provide readily accessible eyewash and emergency shower.	
Eye and Face Protection	Chemical splash goggles plus a face shield where splashing, dust or solution preparation may occur.	
Hand and Body Protection	Chemical-resistant gloves and protective clothing suitable for caustic service. Select materials based on task and breakthrough data. Remove contaminated clothing promptly.	
Respiratory Protection	When ventilation is inadequate or exposure limits may be exceeded, use a NIOSH-approved respirator selected under a written respiratory protection program.	
General Hygiene	Do not eat, drink or smoke while using. Wash thoroughly after handling. Launder contaminated clothing before reuse.	

Section 09 Physical and Chemical Properties

Property	Value
Physical state	Solid pearls / beads
Colour	White
Odour	Odourless
Odour threshold	Not applicable
pH	Approximately 13-14 (1% aqueous solution)
Melting point / freezing point	Approximately 318 °C
Initial boiling point	Approximately 1,388 °C
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Not flammable
Upper/lower flammable limits	Not applicable
Vapour pressure	Negligible at ambient temperature
Vapour density	Not applicable
Relative density	Approximately 2.13 at 20 °C
Solubility	Highly soluble in water; dissolution is strongly exothermic
Partition coefficient	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not applicable
Particle characteristics	Pearls / beads; particle size grade-dependent
Molecular formula	NaOH
Molecular weight	40.00 g/mol

Section 10 Stability and Reactivity

Reactivity	Strong base. Reacts exothermically with acids and water. Corrosive to or reactive with various metals, potentially generating hydrogen gas.
Chemical Stability	Stable when stored dry in tightly closed compatible containers. Hygroscopic and absorbs carbon dioxide from air.
Possibility of Hazardous Reactions	Violent heat release may occur with acids or improper dilution. Hazardous polymerization is not expected.
Conditions to Avoid	Moisture, dust generation, excessive heat, incompatible materials and uncontrolled contact with water or acids.
Hazardous Decomposition Products	Sodium oxide fumes may form at very high temperatures.

Section 11 Toxicological Information

Likely Routes of Exposure Skin and eye contact; inhalation of dust or mist; ingestion.

Acute Effects Sodium hydroxide is corrosive rather than systemically toxic. Exposure can cause severe tissue destruction at the point of contact.

Endpoint	Information
Skin corrosion / irritation	Causes severe skin burns.
Serious eye damage	Causes serious, potentially irreversible eye damage.
Inhalation	Dust or mist may cause severe irritation or burns to the nose, throat and respiratory tract.
Ingestion	May cause severe corrosive burns to the mouth, throat, esophagus and stomach; perforation may occur.
Respiratory or skin sensitization	Not expected to be a sensitizer.
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not listed as a carcinogen by IARC, NTP or OSHA.
Reproductive toxicity	Not classified based on available information.
STOT - single/repeated exposure	Not classified; corrosive local effects are the primary hazard.
Aspiration hazard	Not applicable to a solid.

Symptoms Burning pain, redness, swelling, blistering, ulceration, tearing, visual impairment, coughing, choking, abdominal pain, vomiting and shock. Severity depends on concentration, contact time and promptness of decontamination.

Section 12 Ecological Information

Ecotoxicity Large releases may be harmful to aquatic organisms by sharply increasing pH. Toxicity is primarily related to alkalinity rather than bioaccumulation.

Persistence and Degradability Inorganic substance; biodegradation is not applicable. Dissociates in water to sodium and hydroxide ions.

Bioaccumulative Potential Not expected to bioaccumulate.

Mobility in Soil Highly water soluble and mobile. Environmental fate depends on neutralization and buffering capacity.

Other Adverse Effects Avoid uncontrolled release to the environment.

Section 13 Disposal Considerations

Waste Disposal	Dispose of product, residues and contaminated absorbents through a licensed waste contractor in accordance with federal, provincial/state and local regulations. Do not discharge concentrated product to sewers or waterways. Neutralization should only be performed by trained personnel under controlled conditions.
Contaminated Packaging	Do not reuse empty containers. Residues remain hazardous. Keep labels intact and send containers for approved recycling, reconditioning or disposal.

Section 14 Transport Information

Transport Element	Information
UN number	UN 1823
UN proper shipping name	SODIUM HYDROXIDE, SOLID
Transport hazard class	8
Packing group	II
Labels / placards	Corrosive
Marine pollutant	No
Emergency Response Guide	ERG Guide 154
Special precautions	Protect from moisture. Segregate from acids and incompatible metals. Secure packages upright and closed.
TDG / DOT Classification	Regulated as a Class 8 corrosive material. Shipping classification must be confirmed for the specific package, quantity, mode and jurisdiction.

Section 15 Regulatory Information

Canada	Sodium hydroxide is listed on the Domestic Substances List. This SDS uses the 16-section WHMIS format. Classification: Skin Corrosion Category 1; Serious Eye Damage Category 1.
United States	Sodium hydroxide is listed on the TSCA Inventory. CERCLA reportable quantity: 1,000 lb (454 kg). Subject to applicable OSHA Hazard Communication requirements.
SARA 311/312	Immediate (acute) health hazard; corrosive effects. Facility-specific reporting obligations should be evaluated by the user.

Section 16 Other Information

Date of Latest Revision	August 5, 2026
Revision Summary	Initial Nexolent Solutions issue for Sodium Hydroxide Pearls.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; ERG: Emergency Response Guidebook; GHS: Globally Harmonized System; NIOSH: National Institute for Occupational Safety and Health; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; STOT: Specific Target Organ Toxicity; TDG: Transportation of Dangerous Goods; TLV: Threshold Limit Value; TWA: Time-Weighted Average; WHMIS: Workplace Hazardous Materials Information System.

References

Health Canada, Hazardous Substance Assessment - Sodium Hydroxide:

<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/occupational-health-safety/workplace-hazardous-materials-information-system/hazardous-substance-assessments/sodium-hydroxide.html>

Health Canada, Supplier Hazard Communication Requirements under WHMIS:

<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/occupational-health-safety/workplace-hazardous-materials-information-system/supplier-hazard-communication-requirements-whmis.html>

Merck / Sigma-Aldrich, Sodium Hydroxide Pellets product and safety information:

<https://www.sigmaaldrich.com/CA/en/product/mm/106498>

U.S. DOT Emergency Response Guidebook, Guide 154.

Disclaimer

The information contained herein is believed to be accurate and is provided in good faith. It is intended as a guide for safe handling, use, processing, storage, transportation, disposal and release. It is not a warranty or quality specification. Conditions of use are beyond the supplier's control. The buyer/user is responsible for determining product suitability, conducting workplace-specific hazard assessments, and complying with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

Forward this Safety Data Sheet to affected employees, customers and end users. Ensure workers are trained in the hazards, controls and emergency procedures applicable to this product.