

Section 1: Product & Company Information

Product Identifier: Sodium Hydroxide (Caustic Soda), Beads

Other Means of Identification

Product Number: 131251

Recommended Use and Restrictions on Use

Recommended Use: Chemical Reagent; Industrial uses
Restrictions on Use: Not known.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Not classified

Health Hazard(s)

Corrosion/Irritation, Skin – 1B
(Corrosion)Damage/Irritation, Eye - 1
Specific Target Organ Toxicity (STOT)-Respiratory Irritation, Single exposure - 3

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H335: May cause respiratory Irritation.

Precautionary Statements

General

Not applicable.

Prevention

P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P264: Wash face, hands and any exposed skin thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position 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/physician.
 H312: Harmful in contact with skin.
 P321: Specific treatment (see supplemental first aid instructions on this label).
 P363: Wash contaminated clothing before reuse.
 P390: Absorb spillage to prevent material damage.

Storage

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.
 P406: Store in corrosive resistant container with a resistant inner liner.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Sodium Hydroxide	Caustic soda, Lye	1310-73-2	96 – 100%	No

- Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- “—” Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If not breathing, give artificial respiration. Move exposed person to fresh air.

Skin Contact

For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing.

Eye Contact

In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. If swallowed then seek immediate medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms

Corrosive to skin and eyes.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

General Fire Hazards

Containers may explode when heated.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

SMALL FIRES: Dry chemical or carbon dioxide. LARGE FIRES: Dry chemicals, carbon dioxide, alcohol resistant foam or water spray.

Unsuitable Extinguishing Media

The product reacts with water and will generate heat.

Specific Hazards Arising from the Chemical

Depending on conditions, Decomposition products may include the following materials: Carbon oxides, Halogenated compounds; metal oxide; oxides. Hot containers may explode.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Procedures

Structural firefighters protective clothing provides limited protection in fire situations ONLY; It is not effective in spill situations where direct contact with the substance is possible. Wear chemical protective clothing, that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear positive pressure self-contained breathing apparatus (SCBA) small fires: move containers from area if you can do so without risk.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk-through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Do not touch or walk-through spilled material. Wear appropriate personal protective equipment; avoid direct contact. Do not touch damaged container or spilled material. Ventilate the area before entry. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak for at least 50 meters (150 feet) in all directions. Stay upwind/keep distance from source. Keep out of low areas. Do not allow water to enter container. Keep unauthorized personnel away.

Methods and Materials for Containment and Clean-Up

Avoid dust generation. Carefully shovel or sweep up spilled material and place in suitable container. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Notification Procedures

Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for Safe Handling

Handle and open container with care. Use only with adequate ventilation. Wear appropriate personal protective equipment and avoid direct contact. Do not breath dust, do not get in eyes, on skin, or on clothing. Do not ingest. Add this product only to water. Never add water to this product. Do not add warm or hot water, a violent eruption or explosion may occur. May cause fire or explosion. Avoid contact with organic materials. Take any precaution to avoid mixing with strong acids. When making solutions or diluting, only add caustic soda slowly to the surface of cold water while stirring. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Empty containers retain product residue and can be very hazardous. Do not reuse container. Wash thoroughly with soap and water after handling and before eating, drinking or using Tabaco.

Conditions for Safe Storage, including any Incompatibilities

Ventilate the area before entry. Keep only in the original container. Keep container tightly closed. Keep away from incompatibles. Store in a dry, cool and well-ventilated area. User should ensure that equipment and procedures are in place to ensure safe handling of the caustic at temperatures involved, which may include the need to heat or maintain temperature of the material. See Section 10 for incompatible materials before handling or use.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Sodium Hydroxide	Ceiling	2 mg/m ³	US. ACGIH Threshold Limit Values
Sodium Hydroxide	PEL	2 mg/m ³	US OSHA Table Z-1
Sodium Hydroxide	Ceiling	2 mg/m ³	US OSHA Table Z-1

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain levels below recommended exposure limits. If exposure limits have not been established maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Chemical resistant, impervious gloves, complying with an approved standard should be worn always when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several different substances, the protection time of the gloves cannot be accurately estimated.

Other

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product

Respiratory Protection

If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air purifying or air fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels. The hazards of the product and the safe working limits of the selected respirator.

Hygiene Measures

Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Solid, Beads, Pellets, Microprills
Color: White

Odor:

Odorless

Odor Threshold:

No data available.

pH:

13 (0.5% aqueous solution)

Melting Point/Freezing Point:

310-320 °C

Initial Boiling Point and Boiling Range:

1390 °C

Flash Point:

Not applicable.

Evaporation Rate (butyl acetate=1):

No data available.

Flammability (solid, gas):

No data available.

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: No data available.

Flammability Limit – Lower: No data available.

Explosive Limit – Upper: No data available.

Explosive Limit – Lower: No data available.

Vapor Pressure:

No data available.

Vapor Density (air =1):

No data available.

Relative Density (water=1):

2.13 (25 °C)

Solubility(ies):

Solubility in water: Completely Soluble

Solubility (other): No data available.

Partition coefficient (n-octanol/water):

No data available.

Auto-Ignition Temperature:

No data available.

Decomposition Temperature:

No data available.

Viscosity:

No data available.

Other Information:

Molecular Weight: 40 g/mol

Formula: NaOH

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under normal condition of use.

Chemical Stability

Material is stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Conditions to Avoid

Avoid dust formation. Heat. Moisture.

Incompatible Materials

Keep away from the following materials to prevent strong Exothermic Reactions; oxidizing agents, Strong alkalis, Strong acids. Reactive or incompatible with the following materials: Metals (attacks many metals Producing extremely flammable hydrogen gas which can form explosive mixtures with air.) acids, organic materials (may cause fire or explosions.) Food sugars (Caustic soda may react with various sugars to generate carbon monoxide.) Water (Aqueous reaction with caustic soda can generate heat (Strongly Exothermic.)

Hazardous Decomposition Products

Depending on the conditions, decomposition products may include the following materials: Carbon Oxides; halogenated compounds; metal oxide/oxides.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: May cause burns of the gastrointestinal tract if swallowed.

Inhalation: May cause damage to mucous membranes in nose, throat, lungs and bronchial system.

Skin Contact: Causes severe skin burns.

Eye Contact: Causes serious eye damage.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Sodium Carbonate: LD50 (Rat): 40 90 mg/kg

Dermal

Sodium Hydroxide: LD 50 (Rabbit): 1,350 mg/kg

Sodium Hydroxide: (Rabbit) 500 mg 24 hours severe irritation

Inhalation

Sodium Carbonate: LC50 (Rabbit): 500 mg

Repeated Dose Toxicity

Sodium Carbonate: TLo (Rat): Inhalation 16.2 mg/m³

Sodium Chloride: TDLo(Rat): Inhalation 16800 mg/kg

Sodium Hydroxide: (Monkey): Eye 1% 24 hours Severe irritation

Skin Corrosion/Irritation

Causes severe skins burns.

Repeated or prolonged Exposure to corrosive metals or fumes may cause dermatitis.

Serious Eye Damage/Eye Irritation

Causes serious eye damage. Direct contact with the eyes can cause irreversible damage, including blindness. Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Respiratory/Skin Sensitization

Not a skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

None known.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Not classified.

Other Effects

None known.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Caustic Soda Beads: LC50 (Gambusia Affinas-adult): 125000

Aquatic Invertebrates

Caustic Soda Beads: EC50 (Water Flea Ceriodaphnia dubia) 40.4 mg/L [Fresh Water]

Caustic Soda Beads: LC50 (Crangon-adult) 33000-100000 Ug/L [marine water]

Toxicity to Aquatic Plants
No data available.

Chronic Hazards to the Aquatic Environment
Fish

No data available.

Aquatic Invertebrates
No data available.

Toxicity to Aquatic Plants
No data available.

Persistence and Degradability

Biodegradation
Expected to be readily biodegradable.

BOD/COD Ratio
No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
No data available.

Mobility in Soil

The product is water soluble and may spread in water systems.

Other Adverse Effects

Harmful to aquatic organisms. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

Section 13: Disposal Considerations

Disposal Instructions

Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging

Since emptied containers retain product residue, follow label warnings even after container is emptied.
Dispose of Content and container in accordance with local, regional, national and/or international regulations.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN1823
UN Proper Shipping Name: Sodium hydroxide, Solid
Technical Name: -
Hazard Class: 8
Subsidiary Hazard Risk: -
Packing Group: II
DOT Label/Placard Exemptions: Not determined
Special Provisions: IB8, IP2, IP4, T3, TP33
Packaging Exceptions: 49CFR 173.154
Packaging Non-Bulk: 49CFR 173.212
Packaging Bulk: 49CFR 173.240
Reportable Quantity (RQ): 1000lb (454kg)
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 154

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)
This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)
The following chemical(s) in this material are subject to reporting levels established by CERCLA:
Sodium Hydroxide (CAS# 1310-73-2)

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

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

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 4

Chronic Health Hazard: /

Flammability: 0

Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 4

Fire Hazard: 0

Reactivity Hazard: 0

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate

BCF - Bioconcentration Factor

EC50 - Effective concentration, 50%

IDHL - Immediately Dangerous to Life and Health

Kg - Kilogram

l - Liter

lb - Pound

LC50 - Lethal Concentration, 50%

LD50 - Lethal Dose, 50%

mg - milligram

ml - milliliter

N/A - Not Applicable

N/D - Not Determined

PEL - Permissible Exposure Limit

REL - Recommended Exposure Limit

STEL - Short-term Exposure Limit

TWA - Time weighted average

ACGIH - American Conference of Industrial Hygienists

AIHA - American Industrial Hygiene Association

BEI - Biological Exposure Indices

CAS - Chemical Abstracts Service

DOT - US Department of Transportation

EPA - US Environmental Protection Agency

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - Intermediate Bulk Container

IMDG - International Maritime Dangerous Goods

NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - US Occupational Health and Safety Administration

SARA - US EPA Superfund Amendments and Reauthorization Act

TSCA - US EPA Toxic Substances Control Act

UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

SAFETY DATA SHEET

Print Date: February 4, 2022

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