

## MATERIAL SAFETY DATA SHEET

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 PRODUCT NAME: SODIUM HYDROXIDE SOLID  
 PRODUCT CODE:

DATE: 7-24-95  
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CAS # 1310-73-2

FORMULA: NaOH

CHEMICAL NAME / FAMILY: Sodium Hydroxide

CHEMICAL SYNONYMS: Sodium Hydroxide Pellets, Caustic Soda Solid, Caustic Soda Lye, Caustic Soda Microprills, Caustic Soda Beads; dry granular or solid.

SUPPLIERS NAME: GFI, Inc. / GFI Chemicals  
 111 Boston Post Road  
 Sudbury, Massachusetts 01776  
 SUPPLIERS PHONE NUMBER: 508-443-3674  
 TRANSPORTATION EMERGENCY PHONE NUMBER: 1-800-424-9300

## S.A.R.A. INFORMATION

HAZARDS: Fire: Pressure: Reactivity: Acute: Chronic:  
 PHYSICAL DATA: Mixture: Pure: Y Solid: Y Liquid: Gas:

## SECTION I Hazardous Ingredients

Ingredient	Percent	TLV
Sodium Hydroxide	96 - 100	2 ppm

<> - This chemical is subject to S.A.R.A. Title III Section 313 part 372 reporting.

## SECTION II Health Hazards

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 Threshold Limit Value:

Potential Effects of Exposure (listed by primary routes of entry)

Eyes: Major Potential Hazard: Contact rapidly causes severe damage. Permanent corneal damage almost inevitably results. Even dilute solutions may produce this result, although less rapidly. Mist of many solutions is extremely corrosive.

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## SECTION II Health Hazards

CONTINUED

Skin: Severe and rapid corrosion from contact. Even dilute solutions exert a destructive effect following prolonged contact. Mist of many solutions is extremely corrosive.

Inhalation: Inhalation of mist or dust can injure the entire respiratory tract. Irritancy is noticeable at 2 mg/cu.m. in air.

Ingestion: Severe and rapid corrosion of mouth, gullet, and gastrointestinal tract. Severe pain and difficulty with breathing, vomiting, diarrhea, collapse. Some effects may be delayed. Estimated average fatal dose: 5 g (human adult).

## First Aid:

Eyes: Immediately flush with copious water for at least 15 minutes, holding eyelids apart. Call a physician. If none is available, irrigate another 15 minutes before moving patient to a medical facility.

Skin: Immediately flush under safety shower. If wearing goggles, next flush head and face thoroughly before removing goggles. Next clean victim's hands. Then remove contaminated clothing and shoes. Call a physician. Continue washing for one to two hours. If physician is not available, remove to a medical facility, but only after at least one hour of showering.

Inhalation: Remove to fresh air (to be done by protected personnel). If breathing is difficult, or if cyanotic (blue skin), give oxygen if qualified operator is available. Arrange for medical help.

Ingestion: Do not induce vomiting. If possible, immediately give large quantities of water or milk. This may be followed with diluted vinegar or fruit juice. Arrange for immediate medical help.

## SECTION III Special Protection Information

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Respiratory Protection: In the absence of dust or mist, not required. For dust or mist up to 100 mg/cu.m. in air, use high-efficiency particulate respirator, self-contained breathing apparatus, or supplied-air respirator. Whichever used must have full facepiece. For higher concentrations in air, see Reference (a). For Escape, self-contained breathing apparatus with full facepiece or alternative, see Reference(a).

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## SECTION III Special Protection (cont)

## B. Protective Clothing:

Eyes and Face: Chemical safety goggles if there is any possibility of contact with liquid or mist with eyes. Face shield if there is any possibility of contact of liquid with face. Do not wear contact lenses if handling liquid or dusty solid.

Skin; Hands, Arms, and Body: Protective gloves and full protective clothing if there is any possibility of contact with pellets, dust, liquid, or mist. Contamination rules apply. Preferred materials: rubber, neoprene, or NBR.

Additional protective Measures: Hard hat and impermeable boots under the same conditions as for gloves and protective clothing. Contamination rules apply. Same preferred materials. Eye-wash and quick-drench shower facilities. Neutralization supplies and equipment and abundant running water.

C. Transloading : Protective gloves (rubber, neoprene, or NBR); impermeable boots. Contamination rules apply; same preferred materials.

## SECTION IV Fire &amp; Explosion Hazard Data

Flash Point (Method): N/A

Flammable Limits (% Volume in Air): N/A

Upper:

Lower:

Extinguishing Media: N/A

Special Fire Fighting Procedures: Use water to cool containers exposed to fire. Contact with reactive metals, e.g., aluminum may result in the generation of flammable hydrogen gas. See section XI for protective equipment for fire fighting. Material may react with water if not properly supervised. Caution must be taken to keep materials as dry as possible.

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SECTION IV Fire & Explosion Hazard Data CONTINUED

Unusual Fire and Explosion Hazards: Will react with metals such as aluminum, tin, and zinc to generate hydrogen gas, which is a fire and explosive hazard. Some of this material may vaporize in a fire--see boiling point. Contact with water or moisture may generate sufficient heat to ignite combustible materials.

SECTION V Physical Data

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Boiling Point: N/D

Specific Gravity (H<sub>2</sub>O=1): 2.13 (solid)

Vapor Pressure (MM HG.): N/A

Vapor Density (AIR=1): N/A

Evaporation Rate (Butyl Acetate=1): N/A

Solubility in Water: 53 % @ 25°C

Percent Volatile by Volume: N/A

PH: N/A

Freezing Point: N/D

Appearance and Odor: White solid bead, granular, pellet.

SECTION VI Reactivity Data

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Stability: Yes

Incompatibility: Acids, nitrogen containing organics, carbohydrates, phosphorus, explosives, organic peroxides, aluminum, tin, zinc.

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SECTION VI Reactivity Data

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Hazardous Decomposition Products: Carbon monoxide with carbohydrates, hydrogen with aluminum, zinc, tin.

Hazardous Polymerization: Will not occur.

SECTION VII Spill and Leak Procedures

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Steps to be taken if material is released or spilled: Call CHEMTREC at 800-424-9300. Hazardous concentrations in air may be found in local spill area.

Air Release: Is not normally present unless a dusting action occurs.

Water Release: This material is heavier than water. This is soluble in water. Stop the source of spill if safe to do so. Divert and contain all water for treatment and or disposal. Notify all downstream users of possible contamination and begin to monitor.

Land Spill: Dike material only if necessary. Begin clean up as soon as possible using clean, dry equipment and containers.

Spill Residues: Dispose of per guidelines under Section XII, Waste Disposal. This material may be neutralized for disposal.

Personal protection for emergency spill and fire-fighting situations: No extra protection required beyond that listed in Section V. In case of fire, use normal fire fighting equipment.

Waste Disposal Method: If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. As a nonhazardous solid waste it should be disposed of in accordance with local, state, and federal regulations by treatment in a wastewater treatment system. Once material is in solution, it meets the definition of a D002 (corrosive hazardous waste).

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SECTION VIII D.O.T. Shipping Information  
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Proper Shipping Name: SODIUM HYDROXIDE SOLID

Hazard Class: CORROSIVE MATERIAL

ID Number: UN 1823

Label Requirements: CORROSIVE

Reportable Quantity: 1000 LBS

Other Information:

SECTION IX Additional Information  
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This information may be of importance to you:

FURTHER PRECAUTIONARY MEASURES:

Animal Toxicology: Acute toxicity: Oral LD 50: >500 mg/kg (rabbit)  
Dermal LD 50: >2 g/kg (rabbit) ; Inhalation LC 50: >40 mg/cubic-  
meter/1 hour (rat); Irritation: Causes burns to eyes and skin.

Aquatic Toxicity: Aquatic Toxicity Rating 2 (TLM96:100 - 10 ppm)  
TLM96 - Gambusia Affinis (Mosquito-Fish) 125 ppm)  
TLM48 - Brown Shrimp 33-100 ppm, Cockle 330-1000 ppm  
armed bullhead 33-100 ppm, unspecified  
platfish 33-100 ppm.  
TLM24 - Small Bass 31.7 ppm, Bluegill 76.6 ppm

Chronic Target organ toxicity: There are no known or reported effects  
from repeated exposure.

Reproductive and developmental toxicity: There are no known or  
reported effects on reproductive function or fetal development.

Carcinogenicity: This product is not known or reported to be  
carcinogenic by any reference source including IARC, OSHA, NTP, OR EPA.

Mutagenicity: This product is not known or reported to be mutagenic.

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SECTION IX ADDITIONAL INFORMATION

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Toxic Substances Control Act: This substance is listed on the Toxic Substances Control Act.

Superfund Amendments and reauthorization Act Title III:

Hazardous Categories, per 40 CFR 370.2:

Health: Immediate (acute)

Delayed (chronic)

Physical: None

Emergency Planning and community right to know, per 40 CFR 355, APP.A:  
 Extremely hazardous substance - threshold planning quantity: None established.

Supplier notification requirements, per 40 CFR 372.45 : None established

References:

NPCA/HMIS RATING:

Health- 3  
 Flammability- 0  
 Reactivity- 1  
 Special Protection-

\*\*\*\*\* END OF REPORT \*\*\*\*\*

FOR GFI, INC.

DATE ISSUED: 4-14-93

DATE REVISED: 7-24-95

< = LESS THAN  
 > = MORE THAN

N/A = NOT APPLICABLE  
 N/D = NOT DETERMINED  
 N/E = NOT ESTABLISHED

UNK = UNKNOWN

The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable. GFI provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration and investigation. You should satisfy yourself that you have all current data relevant to your particular use. GFI knows of no medical condition, other than those noted on this Material Safety Data Sheet, which are generally recognized as being aggravated by exposure to this product.