

MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION

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MSDS # N 3A

SODIUM HYDROXIDE

50% LIQUID

Revision A

Issued: October, 1977

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From Genium's MSDS Collection, to be used as a reference.

SECTION 1. MATERIAL IDENTIFICATION

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MATERIAL NAME: SODIUM HYDROXIDE, 50% LIQUID

OTHER DESIGNATIONS: Liquid caustic soda, lye solution, CAS #1310-73-2 (NaOH).

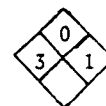
MANUFACTURER: Available from many sources including:

Diamond Shamrock Co., Chlor-Alkali Div.

351 Phelps Court, Box 152300

Irving, TX 75015-2300

(800) 241-3134



SECTION 2. INGREDIENTS AND HAZARDS

%

HAZARD DATA

SODIUM HYDROXIDE (NaOH)

>48.5

Ceiling Limit: 2 mg/m³*

TYPICAL IMPURITIES:

Carbonate (as Na₂CO₃)

<0.25

1% NaOH Soln

Chloride (as NaCl)

<1.15

Chlorate (as NaClO₃)

<0.25

Eye, rabbit: Severe irritation

Sulfate (as Na₂SO₄)

<0.03

Silica (as SiO₂)

<0.01

Water

balance

* Current (1985-86) ACGIH TLV. Current OSHA PEL is 2.0 mg/m³ averaged over 8 hours.

SECTION 3. PHYSICAL DATA

Boiling point, 1 atm ca 140°C

Specific gravity, 60/60°F ... 1.53

Volatiles (water) 50%

Density, lbs/gal 12.76

Water Solubility complete

Viscosity @ 20°C, cps ... 50

APPEARANCE & ODOR: Clear liquid - No odor.

DESCRIPTION: A 50% solution of sodium hydroxide (NaOH) in water.

SECTION 4. FIRE AND EXPLOSION DATA

Lower

Upper

Flash Point and Method

Autoignition Temp.

Flammability Limits in Air

None - not combustible

N/A

N/A

N/A

N/A

EXTINGUISHING MEDIA:

Use extinguishing agents suitable for the surrounding fire. Use water spray to cool containers of this material which are involved in a fire situation to help prevent rupture.

Sodium hydroxide will react with metals such as aluminum, tin, and zinc to generate flammable and explosive hydrogen gas.

Firefighters should wear self contained breathing apparatus and full protective gear to prevent contact with this corrosive material.

SECTION 5. REACTIVITY DATA

This material is stable under normal storage conditions in sealed containers. Polymerization will not occur. There are no hazardous decomposition products. It reacts with CO₂ in the air to form sodium carbonate. It reacts violently with acids accompanied by heat generation and with many organic chemicals, especially nitrocarbons and halocarbons. It can react with trichloroethylene to form spontaneously flammable dichloroacetylene.

Avoid contact with leather and wool. Contact with aluminum, tin, magnesium, zinc, and alloys that contain these metals causes the formation of hydrogen gas (MSDS #65) (flammable).

SECTION 6. HEALTH HAZARD INFORMATIONTLV Ceiling Unit: 2 mg/m³

Sodium Hydroxide is a strong alkali and is dangerous when improperly handled. It is destructive to all human tissue it contacts, producing severe burns. Eye contact causes severe, permanent injury. Skin contact causes irritation and, if not removed immediately, severe burns with scarring. The effects of inhalation of the mist varies from mild irritation to destructive burns. Pneumonitis may occur. Ingestion causes severe burns of the mouth, throat and stomach and may be fatal.

FIRST AID: Wash eyes immediately with plenty of running water for at least 15 minutes, including under eye-lids and all surfaces. Speed in rinsing eyes with water is important if permanent injury is to be avoided. Get medical help immediately. **SKIN CONTACT:** Flush exposed area promptly with large quantities of water. Remove contaminated clothes while washing. Prolong washing in serious cases until medical help arrives. Get medical attention for serious exposure. **INGESTION:** Immediately give person large quantities of water or milk to drink. (Never give anything by mouth to an unconscious person). Do not induce vomiting. Obtain medical assistance immediately. **INHALATION:** Remove from exposure to mist and get prompt medical help. (Paramedic, Inplant, community).

SECTION 7. SPILL, LEAK AND DISPOSAL PROCEDURES

Planning ahead is essential for handling spills. Clean-up personnel should wear protective equipment to prevent skin and eye contact. Pick-up spill with vacuum equipment (alkali resistant) for disposal or flush to holding area with water. Neutralize residue with dilute acid and rinse with water.

DISPOSAL: Waste caustic must never be discharged directly to sewers, drains or surface waters. Dilute well with water and carefully neutralize with acid. Follow all applicable federal, state and local regulations.

EPA HAZARDOUS WASTE NUMBER: D002, corrosive (soln @ pH ≥ 12.5)-40CFR 261.22

REPORTABLE SPILL QUANTITY: 1000 lbs (40CFR117)

SECTION 8. SPECIAL PROTECTION INFORMATION

Provide adequate general ventilation and exhaust ventilation to meet TLV requirement, especially where the possibility of mist formation exists. Use a NIOSH-approved respirator with full face covering for mist, where needed. Use chemical safety goggles. A plastic faceshield, in addition to safety goggles, should be worn if splashing is probable. Use rubber gloves, apron or protective clothing and rubber boots where needed to prevent contact with sodium hydroxide solution.

Eyewash stations and safety showers must be immediately available.

THIS MATERIAL POSES A SPECIAL HAZARD TO CONTACT LENSES WEARERS: the slippery nature of this solution would make it extremely difficult to remove the contact lenses. Critical rinsing of the contaminated eye would be delayed.

SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

Store in well-sealed containers. Protect containers from physical damage. Avoid handling conditions which can lead to spills or mist formation. Have abundant water (preferably running water) available where material is stored, unloaded, and handled for emergency use. Drains servicing areas where this material is stored or used should have retention basins for pH adjustment and dilution of spills and flushings before discharge. Workers handling this material should be trained in proper handling precautions and emergency procedures, with proper protective equipment nearby.

DOT HAZARD CLASSIFICATION: Corrosive Material

DOT LABEL: Corrosive

DOT ID NUMBER: UN1824

DATA SOURCE(S) CODE (See Glossary) 2, 4, 9, 11, 12, 27, 55, 58.V.

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APPROVALS

J. J. Accrocco, 11/85

INDUST. HYGIENE/SAFETY

J. W. 11/85

MEDICAL REVIEW:

S. E. P. Nov 85