

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name Sodium Hydroxide 4%

CAS number 1310-73-2

Synonyms No information available.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC
12501 Pauls Valley Road
Austin, Texas 78737
U.S.A.

Telephone 512-668-9918

Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRAC
International 1-352-323-3500 INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

| | |
|-------------------------------|-------------|
| Acute toxicity (oral) | Category 3 |
| Skin corrosion/irritation | Category 1A |
| Serious Eye Damage/Irritation | Category 1 |
| Aspiration Hazard | Category 1 |

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

Fatal if swallowed, in contact with skin or if inhaled. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child.

Precautionary statements

If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No information available.

SECTION 3: Composition/information on ingredients

3.1 Components

| Chemical name | Common name and synonyms | CAS number | Concentration |
|------------------|--------------------------|------------|---------------|
| Water | Caustic soda | 7732-18-5 | 96% |
| Sodium Hydroxide | H ₂ O | 1310-73-2 | 4% |

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled

Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial resuscitation. Keep person warm and at rest. Treat symptomatically and supportively. Seek medical attention immediately. Qualified medical personnel should consider administering oxygen.

In case of skin contact

Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of product under the skin can occur. If high pressure injured occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.

In case of eye contact

Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

If swallowed Give large amounts of fresh water or milk immediately. Do not give anything by mouth if person is unconscious or otherwise unable to swallow. If vomiting occurs, keep head below hips to prevent aspiration. Treat symptomatically and supportively. Seek medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

May cause caustic burns to the mouth, throat or stomach if swallowed. After swallowing danger of stomach perforation. On inhalation: Irritation of mucous membrane, coughing and shortness of breath. All treatments should be based on observed signs and symptoms of distress in the patient. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Determined by surrounding material. In case of fire, use water fog, dry chemical, CO₂, or alcohol foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Containers may explode from internal pressure if confined to fire. Cool with water spray.

5.3 Special protective equipment and precautions for firefighters

Fire fighters should wear full protective clothing, including self-contained breathing equipment. 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. Spilled product may be slippery.

5.4 Further information

Flash Point No information available

Autoignition Temperature No information available

Explosion limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 3 | 0 | 0 | H |

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Wear appropriate personal protective equipment before approaching spill site.

6.2 Environmental precautions

No information available.

6.3 Methods and materials for containment and cleaning up

For small spills, dilute with water to sewer if allowed by local and state regulations. If unable to wash product with water, absorb with inery material (sand or other approved material) and dispose of in accordance with applicable regulations.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Precautions on safe handling**

Avoid contact with eyes, skin and clothing. Do not inhale vapors and fumes. Wash thoroughly after handling. Use only with adequate ventilation. Do not take internally. For industrial use only.

Hygiene measures**7.2 Conditions for safe storage, including any incompatibilities****Storage conditions**

Keep in a tightly closed container, stored in a cool, dry, ventilated area below 44 °C (110 °F). Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Drum must not be washed out or used for other purposes.

Incompatibilities

No information available.

SECTION 8: Exposure controls/personal protection**8.1 Occupational exposure limits**

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Component | Type | Value |
|------------------|------|---------------------|
| Sodium Hydroxide | PEL | 2 mg/m ³ |

US. ACGIH Threshold Limit Values

| Component | Type | Value |
|------------------|---------|---------------------|
| Sodium Hydroxide | TLV-TWA | 2 mg/m ³ |

US. NIOSH: Pocket Guide to Chemical Hazards

No information available.

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.

Personal protective equipment**Eye/face protection**

Wear chemical goggles; face shield (if splashing is possible).

Skin and body protection

Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron or chemical suit and chemical resistant boots are recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Physical State | Liquid |
| Appearance | Colorless |
| Odor | Bland |
| Odor Threshold | No information available |
| pH | 4% solution 13.80 - 14.00 |
| Freezing Point/Range | 35 °F (1.66 °C) |
| Boiling Point/Range | 212 °F (100 °C) |
| Evaporation Rate | No information available |
| Flammability (solid) | Non flammable material. |
| Flammability or explosive limit | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available. |
| Vapor Density | No information available. |
| Density | 1.035 - 1.045 |
| Solubility | Soluble in water |
| Partition coefficient; n-octanol/water | No information available. |
| Autoignition Temp | No information available. |
| Decomposition Temp | No information available. |
| Viscosity | No information available. |
| Molecular Formula | NaOH |
| Molecular Weight | 39.997 |
| VOC Content(%) | No information available. |
| Oxidizing properties | No information available. |

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Not expected to be Explosive, Self-reactive, Self-Heating, or an organic peroxide under US GHS Definition(s).

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Avoid direct contact with strong acids. Add slowly to water or acids with dilution and agitation to minimize the possible exothermic reaction. Avoid contact with aluminium, tin, zinc, leather, and organic halogen or nitro compounds. Sodium hydroxide in contact with acids and organic halogen compounds, especially trichloroethylene, may cause violent reactions. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Contact with metals such as aluminum, magnesium, tin, and zinc cause formation of flammable hydrogen gas. Sodium hydroxide, even in fairly dilute solution, reacts readily with various sugars to produce carbon monoxide. Precautions should be taken including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel before vessel entry.

10.6 Hazardous decomposition products

No information available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|---------------------|-------------|-----------------|
| Sodium Hydroxide | 140-340 mg/kg (rat) | - | - |

Skin corrosion/irritation

Effects are dependent upon concentration and duration of exposure. Dermatitis or effects similar to those for acute exposure may occur.

Serious eye damage/eye irritation

Effects are dependent upon concentration and duration of exposure. Dermatitis or effects similar to those for acute exposure may occur.

Respiratory or skin sensitization

An epidemiologic study of 291 workers chronically exposed to caustic dusts for 30 years or more found no significant increase in mortality in relation to duration or intensity of such exposures.

Germ cell mutagenicity

No information available.

Carcinogenicity

| Component | CAS | IARC | NTP | ACGIH | OSHA | Mexico |
|------------------|-----------|------------|------------|------------|------------|------------|
| Sodium Hydroxide | 1310-73-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

Specific target organ toxicity - single exposure

No information available.

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

No information available.

SECTION 12: Ecological information

12.1 Toxicity

| Product | | Species | Test Results |
|------------------|------|------------------|-------------------|
| Sodium Hydroxide | LC50 | Bluegill sunfish | 99 mg/L 48h |
| | LC50 | Misquito fish | 125 mg/L 96h |
| | LC50 | Brown shrimp | 30 - 100 mg/L 48h |

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to predominately inorganic substances.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Expected to partition to water. The pH effect of sodium hydroxide in water is naturally by the absorption of atmospheric carbon dioxide. This reduction is also effected by dilution with water and by the natural acidity of a given water body. There is no degradation of sodium hydroxide in waters, only loss by absorption or through chemical neutralization.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

| | |
|----------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | III |

IMDG

| | |
|----------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | III |

IATA

| | |
|----------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | III |

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Listed.

SARA 313 (TRI reporting)

Listed, Acute Health Hazard, Chronic Health Hazard, Reactive Hazard.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Not listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

Issue date: 02/28/2019

Revision 1: 08/26/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.