SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Sodium Hydroxide
CAS number	1310-73-2
Synonyms	Caustic soda.

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)

Corrosive to metals	Category 1
Skin Corrosion/irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word	Danger
Hazard statements	May be corrosive to metals. Causes severe skin burns and eye damage. May cause respiratory irritation.
Precautionary statements	
Prevention	Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Keep only in original container.
Response	Immediately call a POISON CENTER or doctor/physician.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin	IF ON SKIN (or hair): Take off immediately call contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Eyes	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. Do NOT induce vomiting.
Spills	Absob spillage to prevent material damage.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant polypropylene container with a resistant inliner. Store in a dry place.
Disposal	Dispose of contents/container to an approved waste disposal plant.

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
Sodium hydroxide	Caustic soda	1310-73-2	95-100%
Sodium carbonate	-	497-19-8	<3%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
If swallowed	Do not induce vomiting. Call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.
Unsuitable extinguishing medi	Carbon dioxide (CO2).

5.2 Specific hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Water reactive. Corrosive material. Causes severe burns by all exposure routes. Hazardous combustion products: carbon monoxide, carbon dioxide, sodium oxides.

5.3 Special protective equipment and precautions for firefighters

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

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	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

6.2 Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological disposal.

6.3 Methods and materials for containment and cleaning up

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal.

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

Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

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	(Vacated) Ceiling	2 mg/m3
	TWA	2 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Sodium Hydroxide	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Sodium Hydroxide	IDLH	10 mg/mg
	Ceiling	2 mg/m3

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or other symptoms are experienced.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	White

Odor	Odorless
Odor Threshold	No information available
pH	14 (5%)
Melting Point/Range	318 °C / 604.4 °F
Boiling Point/Range	1390 °C / 2534 °F @ 760 mmHg
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	1 mmHg @ 739 °C
Vapor Density	1.38 (Air - 1.0)
Density	2.13
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data 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
Reacts violently with strong acids. May be corrosive to metals.

10.2 Chemical stability
Water reactive, hygroscopic.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.

10.5 Incompatible materials
Water, Metals, Acids.

10.6 Hazardous decomposition products
Carbon monoxide, carbon dioxide, sodium oxides.

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	-	1350 mg/kg (rabbit)	-
Sodium carbonate	2800 mg/kg (rat)	>2000 mg/kg (rabbit)	2.3 mg/l 2h (rat)

Skin corrosion/irritation
Causes severe burns by all exposure routes.

Serious eye damage/eye irritation
Causes severe burns by all exposure routes.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
Mutagenic effects have occurred in experimental animals.

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
Respiratory system

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
Do not empty into drains.

Product		Species	Test Results
	LC50	Freshwater Fish	45.4 mg/L 96h

Sodium hydroxide	LC50	Gambusia affinis	125 mg/l 96h
	EC50	Ceriodaphnia (water flea)	40.4 mg/l 48h
	EC50	Photobacterium phosphoreum	22 mg/l 15min
Sodium carbonate	EC50	Freshwater Algae	242 mg/L 120h
	LC50	Lepomic macrochirus	300 mg/L 96h
	LC50	Gambusia affinis	740 mg/L 96h
	EC50	Water Flea	265 mg/L 48h

12.2 Persistence and degradability
The methods for determining the biological degradibility are not applicable tc

12.3 Bio accumulative potential
No data available.

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
Harmful effect due to pH shift. Form corrosive mixtures with water even if diluted. Neutralism possible in waste water treatment plants. Discharge into the environment must be avoided.

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	UN1823
Proper Shipping Name	SODIUM HYDROXIDE SOLID
Hazard Class	8
Packing Group	II

IMDG

UN-No	UN1823
Proper Shipping Name	SODIUM HYDROXIDE SOLID
Hazard Class	8
Packing Group	II

IATA

UN-No	UN1823
Proper Shipping Name	SODIUM HYDROXIDE SOLID
Hazard Class	8
Packing Group	II

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)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, 1000 lb.

SARA 304 Emergency release notification

Not regulated

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, Acute Health Hazard.

SARA 313 (TRI reporting)

Not regulated

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

Listed, Hazardous Substances, RQs: 1000 lb.

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

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Listed.

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

Listed.

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

Listed.

California Proposition 65

Not listed

SECTION 16: Other information

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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.