Fisher Scientific

Part of Thermo Fisher Scientific

Material Safety Data Sheet

Creation Date 11-Feb-2010 **Revision Date** 11-Feb-2010 **Revision Number** 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **Sodium hydroxide**

Cat No. **BP359-212; BP359-500; S318-1; S318-3; S318-3LC; S318-5; S318-10; S318-10LC; S318-50; S318-50LC; S318-100; S318-500; S320-1; S320-3; S320-10; S320-50; S320-500; S392-12; S392-50; S392-212; S392SAM-1; S392SAM-2; S392SAM-3; S399-1; S399-1LC; S399-50; S399-212; S399-500; S612-3; S612-50; S612-500LB; S612-3500LB; S613-3; S613-10; S613-50; S613-500LB**

Synonyms Caustic soda; Lye (Pellets/Granular/Beads/NF/FCC/EP/BP/JP/Certified ACS)

Recommended Use Laboratory chemicals

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 703-527-3887

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Causes severe burns by all exposure routes. Water reactive. Hygroscopic.

Appearance White **Physical State** Solid **odor** odorless

Target Organs Eyes, Respiratory system, Skin, Gastrointestinal tract (GI)

Potential Health Effects

Acute Effects
Principle Routes of Exposure

Eyes Causes severe burns. May cause blindness or permanent eye damage.
Skin Causes severe burns. May be harmful in contact with skin.
Inhalation Causes severe burns. May be harmful if inhaled.
Ingestion Causes severe burns. May be harmful if swallowed.

Chronic Effects Prolonged skin contact may defat the skin and produce dermatitis.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Preexisting eye disorders. Skin disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Sodium hydroxide	1310-73-2	> 95
Sodium carbonate	497-19-8	< 3

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation 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.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point Not applicable
Method No information available.

Autoignition Temperature No information available.

Explosion Limits
Upper No data available
Lower No data available

Suitable Extinguishing Media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

Unsuitable Extinguishing Media Carbon dioxide (CO2).

Hazardous Combustion Products No information available.

Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Water reactive. Corrosive Material. Causes severe burns by all exposure routes.

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

NFPA **Health** 3 **Flammability** 0 **Instability** 1 **Physical hazards** N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions 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.

Environmental Precautions Should not be released into the environment.

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

7. HANDLING AND STORAGE

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.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide	Ceiling: 2 mg/m^3	(Vacated) Ceiling: 2 mg/m^3 TWA: 2 mg/m^3	IDLH: 10 mg/m^3 Ceiling: 2 mg/m^3

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Sodium hydroxide	Ceiling: 2 mg/m^3	Peak: 2 mg/m^3	CEV: 2 mg/m^3

NIOSH IDLH: *Immediately Dangerous to Life or Health*

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 EN166

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 if irritation or other symptoms are experienced

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid
Appearance White

9. PHYSICAL AND CHEMICAL PROPERTIES

odor	odorless
Odor Threshold	No information available.
pH	14 (5 % Solution)
Vapor Pressure	1 mmHg @ 739 °C
Vapor Density	No information available.
Viscosity	No information available.
Boiling Point/Range	1390°C / 2534°F@ 760 mmHg
Melting Point/Range	318°C / 604.4°F
Decomposition temperature	No information available.
Flash Point	Not applicable
Evaporation Rate	No information available.
Specific Gravity	2.13
Solubility	Soluble in water
log Pow	No data available
Molecular Weight	40
Molecular Formula	NaOH

10. STABILITY AND REACTIVITY

Stability	Hygroscopic. Water reactive.
Conditions to Avoid	Avoid dust formation. Incompatible products. Excess heat. Exposure to air or moisture over prolonged periods.
Incompatible Materials	Water, Metals, Acids
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO_2), Sodium oxides
Hazardous Polymerization	Hazardous polymerization does not occur
Hazardous Reactions .	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	Not listed	1350 mg/kg (Rabbit)	Not listed
Sodium carbonate	4090 mg/kg (Rat)	Not listed	Not listed

Irritation	Causes severe burns by all exposure routes
Toxicologically Synergistic Products	No information available.

Chronic Toxicity

Carcinogenicity	There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects Mutagenic effects have occurred in experimental animals.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

Other Adverse Effects See actual entry in RTECS for complete information.

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium carbonate	EC50 120 h 242 mg/L	Lepomis macrochirus: LC50: 300 mg/L/96h Gambusia affinis: LC50: 740 mg/L/96h	Not listed	EC50 48 h 265 mg/L

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility No information available

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

DOT

UN-No UN1823
Proper Shipping Name Sodium hydroxide, solid
Hazard Class 8
Packing Group II

TDG

14. TRANSPORT INFORMATION

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

IMDG/IMO

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

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Sodium hydroxide	X	X	-	215-185-5	-		X	X	X	X	KE-31487 X
Sodium carbonate	X	X	-	207-838-8	-		X	X	X	X	KE-31380 X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sodium hydroxide	X	1000 lb	-	-

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium hydroxide	1000 lb	-

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium hydroxide	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ):	Y
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
E Corrosive material

16. OTHER INFORMATION

Prepared By	Regulatory Affairs Thermo Fisher Scientific Tel: (412) 490-8929
Creation Date	11-Feb-2010
Print Date	11-Feb-2010
Revision Summary	"***", and red text indicates revision

Reviewed
2013.01.22
14:23:27
-05'00'

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.

End of MSDS