



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

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Revision Summary "****", and red text indicates revision

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