ISO9001:2000 Certified

Material Safety Data Sheet
Calcium chloride, ACS

Section 1 - Chemical Product and Company Identification

MSDS Name:
Calcium chloride, ACS
Catalog Numbers:
LC12725
Synonyms:
Calcium dichloride dihydrate.
Company Identification:
LabChem, Inc.
200 William Pitt Way
Pittsburgh, PA 15238
Company Phone Number:
(412) 826-5230
Emergency Phone Number:
(800) 424-9300
CHEMTREC Phone Number:
(800) 424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
10035-04-08	Calcium chloride dihydrate	100%

Section 3 - Hazards Identification

Emergency Overview

Appearance: *white solid*

Warning! May be harmful if swallowed. May cause severe respiratory and digestive tract irritation with possible burns. May cause severe eye and skin irritation with possible burns. May cause cardiac disturbances. Hygroscopic (absorbs moisture from air).

Target Organs: Eyes.

Potential Health Effects

Eye:
May cause severe eye irritation and possible eye burns.
Skin:
Causes skin irritation and possible burns, especially if the skin is wet or moist.
Ingestion:
May cause severe gastrointestinal irritation with nausea, vomiting and possible burns. May cause cardiac disturbances. May be harmful if swallowed. In very severe cases, seizures, rapid respiration, slow heartbeat, or death may result.
Inhalation:
May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation.

Chronic:
Effects may be delayed.

Section 4 - First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.

Skin:
Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.

Ingestion:
Do not induce vomiting. If victim is conscious, give 2-4 glasses of water or milk. Get medical aid at once.

Inhalation:
Give artificial respiration if necessary. Move victim to fresh air. Keep victim warm and at rest. Get medical aid at once. Do not use mouth-to-mouth resuscitation.

Notes to Physician:
Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

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

Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:
No information found.

Flash Point:
No information found.

NFPA Rating:
Health-2; flammability-0; reactivity-0

Explosion Limits:
Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately. Avoid creating airborne particles. Provide ventilation.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Do not get on skin or in eyes. Do not ingest or inhale. Always use cool water when dissolving calcium chloride. Heat evolved is significant. Avoid breathing dust, vapor, mist, or gas.

Storage:

Store capped at room temperature. Protect from heat and incompatibles.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Calcium chloride	none listed	none listed	none listed

OSHA Vacated PELs:

Calcium chloride: No OSHA Vacated PELs are listed.

Personal Protective Equipment

Eyes:

Do not wear contact lenses when working with chemicals. An eye wash fountain should be available in the immediate work area. Wear appropriate protective eyeglasses or chemical safety goggles as described in 29 CFR 1910.133.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Color: White
Odor: Odorless
pH: 4.5-8.5 (5% solution at 25°C)
Vapor Pressure: Not available
Vapor Density: Not available

Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	Not available
Freezing/Melting Point:	175°C
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	Not available
Molecular Formula:	CaCl2.2H2O
Molecular Weight:	147.01

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal storage and handling conditions.
Conditions to Avoid:
Dust generation, excess heat, exposure to water or moist air
Incompatibilities with Other Materials:
Bromine trifluoride, Furan-2-peroxycarboxylic acid. Solutions attack some metals.
Hazardous Decomposition Products:
Calcium oxide, hydrogen chloride.
Hazardous Polymerization:
Has not been reported.

Section 11 - Toxicological Information

RTECS:
CAS# 10035-04-8: EV9810000
LD50/LC50:
CAS# 10035-04-8:
Oral, mouse: LD50 = 1940 mg/Kg;
Oral, rabbit: LD50 = 1384 mg/Kg;
Oral, rat: LD50 = 1 g/Kg.
Carcinogenicity:
CAS# 10035-04-8: Not listed by ACGIH, IARC, NTP, or CA Proposition 65.
Epidemiology:
No information available.
Teratogenicity:
No information available.
Reproductive:
No information available.
Mutagenicity:
Mutagenic effects have occurred in experimental animals.
Neurotoxicity:
No information available.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not regulated.
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 10035-04-8 is not listed on the TSCA inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40 CFR 720.3(u)(2)).

CAS# 10043-52-4 (anhydrous) is listed on the TSCA inventory. Does not have a Significant New Use Rule.

SARA Reportable Quantities (RQ):

CAS# 10035-04-8 does not have a RQ.

CERCLA/SARA Section 313:

Not reportable under Section 313.

OSHA - Highly Hazardous:

Not considered highly hazardous by OSHA.

US State

State Right to Know:

CAS# 10035-04-8 is not listed on the following state right to know lists: California, Florida, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

California Regulations:

Not listed.

European/International Regulations

Canadian DSL/NDSL:

CAS# 10035-04-8 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 10035-04-8 is not listed on the Ingredient Disclosure List.

Material Safety Data Sheet
Calcium chloride, ACS

Section 16 - Other Information

MSDS Creation Date: July 24, 2006
Revision Date: None

Information in this MSDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc. assumes no liability resulting from the use of this MSDS. The user must determine suitability of this information for his application.

CALCIUM HYDROXYAPATITE SAFETY DATA SHEET (SDS)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Calcium Hydroxyapatite

Synonyms: Calcium Hydroxylapatite
Pentacalcium Hydroxide tris (orthophosphate)

Information: Calcium Hydroxyapatite is a synthetically produced calcium phosphate mineral that is a pure form of natural bone, dentin, and enamel found in the human body. It is a white to off-white crystalline powder.

Manufacturer: Merz North America, Inc.
Address: Northchase 1 Building
6501 Six Forks Road
Raleigh, NC 27615

Phone No.: 888-972-4588

Hazmat Service Emergency Number: 800-373-7542

International Shipments: +1-484-951-2432

2. HAZARD(S) IDENTIFICATION

This product is not considered to be hazardous per the Occupational Safety & Health Administration's (OSHA's) Hazard Communication Standard 29CFR1910.1200:

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance Name	CAS#
Pentacalcium hydroxide tris (orthophosphate)	12167-74-7

4. FIRST – AID MEASURES

Inhalation: Move to fresh air; consult a physician.
Oral Exposure: If swallowed, wash out mouth with water if conscious; consult a physician.
Skin Contact: Wash affected skin thoroughly with soap and water.
Eye Contact: Flush with copious amounts of water for at least 15 minutes; consult a physician.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water, Dry Chemical, Carbon Dioxide, or Appropriate Foam

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

Specific Hazards: May emit hazardous fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment; avoid breathing dust.

Method for cleaning up: Use broom, shovel, or equivalent and minimize dust formation; store in closed container prior to disposal.

7. HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practices; keep container closed unless in use and avoid dust formation as much as possible.

Store product in dry, well-ventilated area

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Personal protective equipment: Nitrile gloves or equivalent; long sleeves and pants to minimize exposed skin; safety glasses or goggles; National Institute for Occupational Safety and Health (NIOSH) approved particulate respirator or equivalent for nuisance dust – N95 or greater protection

Wash hands and any exposed skin after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White solid or powder
Odor	None
pH (Value)	7.2 – 8.0
Melting Point	>1,250 ºC (2,282 ºF)
Initial Boiling Point and Boiling Range	No data available
Flashpoint	Not applicable
Evaporation Rate	No data available
Explosion Severity	(K_{st}) Value = 0 bar.m/s
Vapor Pressure	No data available
Density	3.14 g/cm^3
Solubility	Insoluble
Partition Coefficient	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under recommended storage conditions

Conditions to Avoid: No data available

Incompatible Materials: Strong acids and strong oxidizers

Hazardous Decomposition Products: No data available

11. TOXICOLOGICAL INFORMATION

Health effects are not known or expected during normal use

12. ECOLOGICAL INFORMATION

Ecological data is not available

13. DISPOSAL CONSIDERATIONS

Dispose of this product according to all local, state, and federal regulations

14. TRANSPORT INFORMATION

Non-hazardous for transport

15. REGULATORY INFORMATION

This material is not listed on the Toxic Substances Control Act (TSCA) inventory but is exempt when included in a drug, cosmetic, or device regulated by the Food and Drug Administration (FDA).

Superfund Amendments and Reauthorization Act (SARA) 302, 313 Listed: No
SARA 311/312: Acute Health Hazard

Resource Conservation and Recovery Act (RCRA) Hazardous Waste: No

16. OTHER INFORMATION

Revision Date: 25 APR 2015
Revision: 02

The information contained in this SDS is to the best of Merz North America, Inc.'s knowledge and is believed to be accurate and reliable as of the revision date. However, no representation, warranty, or guarantee is implied or expressed regarding the accuracy, reliability, or completeness of this information. Information contained within this SDS is related to occupational exposure.

ISO9001 Certified Company

Material Safety Data Sheet
Phosphate Standard Solutions

Section 1 - Chemical Product and Company Identification

MSDS Name:
Phosphate Standard Solutions
Catalog Numbers:
LC18570, LC18580, LC18590, LC18600
Synonyms:
None
Company Identification:
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238
Company Phone Number:
(412) 826-5230
Emergency Phone Number:
(800) 424-9300
CHEMTREC Phone Number:
(800) 424-9300 or
(011) 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
7778-77-0	Potassium dihydrogen phosphate	0.02-0.4

Section 3 - Hazards Identification

Emergency Overview

Appearance: *Clear, colorless solution*
Caution! *May cause irritation to eyes and skin. This is expected to be a low hazard for usual industrial handling.*
Target Organs: *None.*

Potential Health Effects

Eye:
May cause eye irritation.
Skin:
May cause skin irritation.
Ingestion:
This product is not likely to cause gastrointestinal irritation.
Inhalation:
This product is not likely to cause respiratory irritation.

Chronic:
No information found.

Section 4 - First Aid Measures

Eyes:
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid.

Skin:
Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion:
Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.

Inhalation:
Move victim to fresh air immediately. Get medical aid if cough or other symptoms appear.

Notes to Physician:
Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

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

Extinguishing Media:
Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Autoignition Temperature:
Not applicable.

Flash Point:
Not applicable.

NFPA Rating:
CAS# 7732-18-5: Health- 0, Flammability- 0, Instability- 0.
CAS# 7778-77-0: Health- 1, Flammability- 0, Instability- 0.

Explosion Limits:
Lower: No information Upper: No information

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in suitable containers labeled for later disposal.

Section 7 - Handling and Storage

Handling:

Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage:

Store in a cool, dry area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities using or storing this material should be equipped with an eyewash and safety shower. Provide local exhaust or general dilution ventilation.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
Dihydrogen potassium phosphate	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.

OSHA Vacated PELs:

None

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Do not wear contact lenses when working with chemicals.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State:	Clear liquid
Color:	Colorless
Odor:	Odorless
pH:	No information found.
Vapor Pressure:	14 mm Hg @ 20C
Vapor Density:	0.7
Evaporation Rate:	No information found.
Viscosity:	No information found.
Boiling Point:	212°F (100°C)
Freezing/Melting Point:	32°F (0°C)
Decomposition Temperature:	No information found.

Solubility in water: Soluble
Specific Gravity/Density: 1.0
Molecular Formula: Not applicable
Molecular Weight: Not applicable

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
Incompatible materials.
Incompatibilities with Other Materials:
Strong oxidizing agents, strong bases.
Hazardous Decomposition Products:
Oxides of phosphorus, phosphorus trihydride (phosphine).
Hazardous Polymerization:
Has not been reported.

Section 11 - Toxicological Information

RTECS:
CAS# 7732-18-5: ZC0110000.
CAS# 7778-77-0: TC6615500.
LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg.
CAS# 7778-77-0:
Skin, rabbit: LD50 = >4640 mg/kg.
Carcinogenicity:
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 7778-77-0: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
Epidemiology:
No information found.
Teratogenicity:
No information found.
Reproductive:
No information found.
Mutagenicity:
No information found.
Neurotoxicity:
No information found.

Section 12 - Ecological Information

No information found.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not regulated.
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 7778-77-0 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ):

None of the components are on this list.

CERCLA/SARA Section 313:

None of the components are on this list.

OSHA - Highly Hazardous:

None of the components are on this list.

US State

State Right to Know:

None of the components are on state Right-to-Know lists.

California Regulations:

None.

European/International Regulations

Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7778-77-0 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 7778-77-0 is not listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: November 12, 1997
Revision Date: September 17, 2010

Information in this MSDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc. assumes no liability resulting from the use of this MSDS. The user must determine suitability of this information for his application.

Sodium Bicarbonate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 02/21/2007 Revision date: 03/13/2018 Supersedes: 03/13/2018 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Sodium Bicarbonate
Chemical name	:	Sodium Hydrogen Carbonate
CAS-No.	:	144-55-8
Product code	:	LC22943
Formula	:	NaHCO3

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	For laboratory and manufacturing use only.
Recommended use	:	Laboratory chemicals
Restrictions on use	:	Not for food, drug or household use

1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Serious eye damage/eye irritation Category 2B	H320	Causes eye irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Signal word (GHS-US)	:	Warning
Hazard statements (GHS-US)	:	H320 - Causes eye irritation
Precautionary statements (GHS-US)	:	P264 - Wash exposed skin thoroughly after handling. P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Sodium Bicarbonate (Main constituent)	(CAS-No.) 144-55-8	100	Eye Irrit. 2B, H320

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Causes eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses. Gloves.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep cool. Keep container closed when not in use.

Incompatible products : Strong oxidizers. Strong acids.

Incompatible materials : Moisture. Heat sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Safety glasses.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Respiratory protection not required in normal conditions

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Powder.
Color	:	white
Odor	:	None.
Odor threshold	:	No data available
pH	:	8.3 0.1M solution
Melting point	:	270 °C
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Specific gravity / density	:	2.159 g/cm³
Molecular mass	:	84.01 g/mol
Solubility	:	Soluble in water. Water: 6.9 g/100ml
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	> 50 °C

Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

Moisture. Incompatible materials. High temperature.

10.5. Incompatible materials

Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	:	Ingestion; Inhalation; Skin and eye contact
Acute toxicity	:	Not classified

Sodium Bicarbonate (144-55-8)	
LD50 oral rat	4220 mg/kg
ATE US (oral)	4220 mg/kg body weight

Skin corrosion/irritation	:	Not classified pH: 8.3 0.1M solution
Serious eye damage/irritation	:	Causes eye irritation. pH: 8.3 0.1M solution
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity – single exposure	:	Not classified
Specific target organ toxicity – repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Potential Adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.
Symptoms/effects after eye contact	:	Causes eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Sodium Bicarbonate (144-55-8)	
LC50 fish 1	8250 - 9000 mg/l
EC50 Daphnia 1	2350 mg/l

12.2. Persistence and degradability

Sodium Bicarbonate (144-55-8)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Sodium Bicarbonate (144-55-8)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Sodium Bicarbonate (144-55-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

Sodium Bicarbonate (144-55-8)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Sodium Bicarbonate (144-55-8)
Not listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

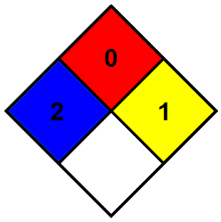
Revision date : 03/13/2018

Other information : None.

Full text of H-phrases: see section 16:

H320	Causes eye irritation

NFPA health hazard	:	2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard	:	0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity	:	1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health	:	2 Moderate Hazard - Temporary or minor injury may occur
Flammability	:	0 Minimal Hazard - Materials that will not burn
Physical	:	1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
Personal protection	:	E E - Safety glasses, Gloves, Dust respirator

SDS US LabChem

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

Sodium Hydroxide

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 07/06/1998 Revision date: 02/21/2018 Supersedes: 10/14/2013 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Sodium Hydroxide
CAS-No.	:	1310-73-2
Product code	:	LC23900
Formula	:	NaOH
Synonyms	:	anhydrous caustic soda / caustic alkali / caustic flake / caustic soda, solid / caustic white / caustic, flaked / hydrate of soda / hydroxide of soda / LEWIS red devil lye / soda lye / sodium hydrate / sodium hydroxide, pellets

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Industrial use
Recommended use	:	Laboratory chemicals
Restrictions on use	:	Not for food, drug or household use

1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation, Category 1A	H314	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H314 - Causes severe skin burns and eye damage.
H402 - Harmful to aquatic life

Precautionary statements (GHS-US) :
P260 - Do not breathe dust, vapours.
P264 - Wash exposed skin thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor

P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Sodium Hydroxide (Main constituent)	(CAS-No.) 1310-73-2	100	Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wipe off dry product from skin. Remove clothing before washing. Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Risk of lung oedema.

Symptoms/effects after skin contact : Blisters. Caustic burns/corrosion of the skin. Slow-healing wounds.

Symptoms/effects after eye contact : Corrosion of the eye tissue. Permanent eye damage.

Symptoms/effects after ingestion : Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

5.2. Specific hazards arising from the chemical

Fire hazard	:	DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	:	INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Reactivity	:	May be corrosive to metals. Absorbs the atmospheric CO2. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	:	Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	:	Cool tanks/drums with water spray/remove them into safety. When cooling/extinguishing: no water in the substance. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	:	Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Absorb spillage to prevent material damage. Dike and contain spill.

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves. Face-shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen apparatus. Contact with moisture/water: compressed air/oxygen apparatus. Contact with moisture/water: gas-tight suit.
Emergency procedures	:	Mark the danger area. Prevent dust cloud formation. Corrosion-proof appliances. Keep containers closed. Avoid ingress of water in the containers. Wash contaminated clothes. On contact with moisture/water: keep upwind. On contact with moisture/water: consider evacuation. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	:	In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment	:	Equip cleanup crew with proper protection. Do not breathe dust.
Emergency procedures	:	Stop release.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.
Methods for cleaning up	:	Collect the spill only if it is in a dry state. Wetted substance: cover with powdered limestone or dry sand, earth, vermiculite. Scoop solid spill into closing containers. Under controlled conditions: neutralize leftovers with dilute acid solution. Possible violent reaction if you neutralize. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid raising dust. Avoid contact of substance with water. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain.

Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible products	:	combustible materials. metals. Strong acids. Strong oxidizers. Protect from moisture.
Incompatible materials	:	incompatible materials. Moisture. Heat sources.
Storage temperature	:	20 °C
Heat and ignition sources	:	KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage	:	KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. metals. organic materials. water/moisture.
Storage area	:	Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Store at ambient temperature. Keep only in the original container. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: hermetical. watertight. corrosion-proof. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: stainless steel. nickel. polyethylene. paper. MATERIAL TO AVOID: lead. aluminium. copper. tin. zinc. bronze. textile.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium Hydroxide (1310-73-2)		
ACGIH	ACGIH Ceiling (mg/m³)	2 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	2 mg/m³
IDLH	US IDLH (mg/m³)	10 mg/m³
NIOSH	NIOSH REL (ceiling) (mg/m³)	2 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Protective clothing. Gloves. Dust/aerosol mask with filter type P3.

Materials for protective clothing:

GIVE GOOD RESISTANCE: natural rubber. neoprene. nitrile rubber. GIVE LESS RESISTANCE: butyl rubber. polyethylene. PVA. GIVE POOR RESISTANCE: natural fibres

Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Skin and body protection:

Corrosion-proof clothing. In case of dust production: head/neck protection

Respiratory protection:

Dust production: dust mask with filter type P3.
High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Crystalline solid. Crystalline powder. Little spheres. Lumps. Needles. Scales. Flakes.
Colour	:	White
Odour	:	Odourless
Odour threshold	:	No data available
pH	:	14 (5 %)
Melting point	:	323 °C
Freezing point	:	No data available
Boiling point	:	1388 °C (1013.25 hPa)
Flash point	:	Not applicable
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	< 0.1 hPa (20 °C)
Relative vapour density at 20 °C	:	No data available
Relative density	:	2.13 (20 °C)
Density	:	2130 kg/m³
Molecular mass	:	40 g/mol
Solubility	:	Exothermically soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in glycerol. Water: 100 g/100ml (25 °C) Ethanol: soluble
Log Pow	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, kinematic	:	0.53 mm²/s (25 °C, 1 mol/l)
Viscosity, dynamic	:	0.997 mPa.s (25 °C, Test data)
Explosive limits	:	No data available
Explosive properties	:	Not applicable.
Oxidising properties	:	None.

9.2. Other information

Minimum ignition energy	:	Not applicable
Saturation concentration	:	671 g/m³
VOC content	:	Not applicable (inorganic)
Other properties	:	Translucent. Hygroscopic. Substance has basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

May be corrosive to metals. Absorbs the atmospheric CO2. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

10.2. Chemical stability

Hygroscopic. Unstable on exposure to air.

10.3. Possibility of hazardous reactions

Reacts violently with acids. Reacts violently with water.

10.4. Conditions to avoid

Moisture. Incompatible materials.

10.5. Incompatible materials

Water. Strong oxidizers. Strong acids. metals. combustible materials.

10.6. Hazardous decomposition products

Sodium oxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	:	Skin and eyes contact
Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Causes severe skin burns and eye damage. pH: 14 (5 %)
Serious eye damage/irritation	:	Causes serious eye damage. pH: 14 (5 %)
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Causes severe skin burns. Causes serious eye damage.
Symptoms/effects after inhalation	:	WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Risk of lung oedema.
Symptoms/effects after skin contact	:	Blisters. Caustic burns/corrosion of the skin. Slow-healing wounds.
Symptoms/effects after eye contact	:	Corrosion of the eye tissue. Permanent eye damage.
Symptoms/effects after ingestion	:	Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock.
Chronic symptoms	:	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	:	Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	:	Harmful to crustacea. Harmful to fishes. Groundwater pollutant. pH shift.

Sodium Hydroxide (1310-73-2)	
LC50 fish 1	45.4 mg/l (Other, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	40.4 mg/l (Other, 48 h, Ceriodaphnia sp., Experimental value)

12.2. Persistence and degradability

Sodium Hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable (inorganic)
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

Sodium Hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Sodium Hydroxide (1310-73-2)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Should not be landfilled with household waste. Recycle/reuse. Dilute. Neutralize.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1823 Sodium hydroxide, solid, 8, II

UN-No.(DOT) : UN1823

Proper Shipping Name (DOT) : Sodium hydroxide, solid

Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212

DOT Packaging Bulk (49 CFR 173.xxx) : 240

DOT Special Provisions (49 CFR 172.102) : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).
IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.
IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.
T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2)
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 15 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 50 kg

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 52 - Stow ‘‘separated from’’ acids

Other information : No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

Sodium Hydroxide (1310-73-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Not subject to reporting requirements of the United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

Sodium Hydroxide (1310-73-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 02/21/2018

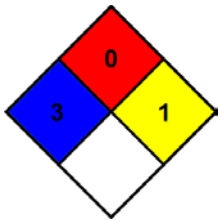
Full text of H-statements: see section 16:

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H402	Harmful to aquatic life

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection : F

F - Safety glasses, Gloves, Synthetic apron, Dust respirator

SDS US LabChem

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.