

HyClone®

Thermo
SCIENTIFIC

Material Safety Data Sheet

Creation Date 21-Apr-2009

Revision Date 24-Sep-2010

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Sodium Hydroxide Solution ($\geq 2, < 5\%$) Mixture

Cat No. CH30516, CH3A581, CH3A602, CH3A603, CH3A661, CH3A711, SH30566, SH3A583, SH3A655, SH3A842, SH3A1027, SH3A1076, SH3A1203, SH3A1369, SH3A1426, SH3A1433, SH3A1513, SH3A1514, SH3A1627, SH3A1661, SH3A1720, SH3A1775, SH3A1776, SH3A1830, SH3A1856, SH3A1902, SH3A1920, SH3A1978, SH3A2031, SH3A2037, SH3A2164, SH3A2185, SH3A2261, SH3A2287, SH3A2322, SH3A2391, SH3A2726, SH3A2814, SH3A2818, SH3A2965

Synonyms Caustic soda; Lye

Recommended Use In vitro methods

Company HyClone Laboratories, Inc.
925 West 1800 South
Logan, UT 84321 United States
Tel: (435) 792-8000

Emergency Telephone Number
INFOTRAC - 24 Hour Number: 1-800-535-5053
Outside of the United States, call 24 Hour Number: 001-352-323-3500 (Call Collect)

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Causes burns by all exposure routes.

Appearance Clear, Cloudy

Physical State Liquid

odor No information available

Target Organs

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

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes

Causes burns.

Skin Causes burns. May be harmful in contact with skin.
Inhalation Causes burns. May be harmful if inhaled.
Ingestion Causes burns. May be harmful if swallowed.

Chronic Effects Mutagenic effects have occurred in experimental animals..

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 %
Process water	7732-18-5	> 76
Sodium hydroxide	1310-73-2	>= 2, < 5
Sodium chloride	7647-14-5	0 - 15
Sodium phosphate, dibasic heptahydrate	7782-85-6	0 - 1
Sodium phosphate dibasic	7558-79-4	0 - 1
Sodium phosphate monobasic	10049-21-5	0 - 1
Sodium phosphate dibasic dihydrate	10028-24-7	0 - 1

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
Sensitivity to static discharge

No information available.
 No information available.

Specific Hazards Arising from the Chemical

Corrosive Material. Causes 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. Thermal decomposition can lead to release of irritating gases and vapors.

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. 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 Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Handling Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.

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

Liquid

Appearance

Clear, Cloudy

odor

No information available

Odor Threshold

No information available.

pH

> 12

Vapor Pressure

No information available.

Vapor Density

No information available.

Viscosity

No information available.

Boiling Point/Range

100°C / 212°F

Melting Point/Range

No information available.

Decomposition temperature

No information available.

Flash Point

Not applicable

Evaporation Rate

No information available.

Specific Gravity

No information available.

Solubility

No information available.

log Pow

No data available

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to Avoid

Incompatible products. Exposure to air or moisture over prolonged periods. Excess heat.

Incompatible Materials

Strong acids, Acid chlorides, Acid anhydrides, Peroxides, Metals

Hazardous Decomposition Products

Sodium oxides

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions .

None under normal processing..

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

No acute toxicity information is available for this product

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Process water	90 mL/kg (Rat)	Not listed	Not listed
Sodium hydroxide	Not listed	1350 mg/kg (Rabbit)	Not listed
Sodium chloride	3 g/kg (Rat)	10 g/kg (Rabbit)	42 g/m ³ (Rat) 1 h
Sodium phosphate, dibasic heptahydrate	12930 mg/kg (Rat)	Not listed	Not listed
Sodium phosphate dibasic	17 g/kg (Rat)	Not listed	Not listed

Irritation Causes 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 hydroxide	Not listed	45.4 mg/L LC50 96 h	Not listed	Not listed
Sodium chloride	Not listed	6020-7070 mg/L LC50 96 h 5560-6080 mg/L LC50 96 h 4747-7824 mg/L LC50 96 h 7050 mg/L LC50 96 h 12946 mg/L LC50 96 h 6420-6700 mg/L LC50 96 h	Not listed	1000 mg/L EC50 = 48 h 340.7 - 469.2 mg/L EC50 48 h

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 UN1824
 Proper Shipping Name SODIUM HYDROXIDE SOLUTION
 Hazard Class 8
 Packing Group II

TDG

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

IATA

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

IMDG/IMO

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

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Process water	X	X	-	-	-		X	-	X	X	X
Sodium hydroxide	X	X	-	215-185-5	-		X	X	X	X	KE-31487 X

15. REGULATORY INFORMATION											
Sodium chloride	X	X	-	231-598-3	-		X	X	X	X	KE-31387 X
Sodium phosphate, dibasic heptahydrate	-	-	-	-	-		X	-	X	X	-
Sodium phosphate dibasic	X	X	-	231-448-7	-		X	X	X	X	KE-12344 X
Sodium phosphate monobasic	-	-	-	-	-		X	-	X	X	-
Sodium phosphate dibasic dihydrate	-	-	-	-	-		X	-	X	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	Yes
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	-	-
Sodium phosphate dibasic	X	5000 lb	-	-
Sodium phosphate dibasic dihydrate	X	-	-	-

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	-
Sodium phosphate dibasic	5000 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
Sodium phosphate dibasic	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

16. OTHER INFORMATION

Thermo Fisher Scientific
Tel: (412) 490-8929

Creation Date 21-Apr-2009
Print Date 24-Sep-2010
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