



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 2111

Date of review: April 28, 2017

1 Identification of substance and company

Product name: **Sodium Hydroxide, 50% Solution**
Product code: 90534, C2465
Relevant use and restrictions on use: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:



Signal word(s): Danger
Pictogram(s): Corrosion
Hazard statements: H290 May be corrosive to metals
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H402 Harmful to aquatic life
Precautionary statements: P234 Keep only in original container
P264 Wash skin thoroughly after handling
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
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+340+310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse
P390 Absorb spillage to prevent material damage
P405 Store locked up
P406 Store in corrosive resistant stainless steel container with a resistant inner liner
P501 Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified: None
Ingredients of unknown acute toxicity: None
GHS Classification: Corrosive to metals - 1
Skin corrosion - 1
Serious eye damage - 1
Acute aquatic toxicity - 3
HMIS ratings (scale 0-4): Health hazard: 3
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Sodium hydroxide, 50% solution

	CAS No.	EC No.	Concentration
Sodium hydroxide	1310-73-2	215-185-5	49.5 - 51.5%
Water	7732-18-5	231-791-2	48.5 - 50.5%

Formula: NaOH
Synonyms: White caustic solution, Soda lye, Lye solution
Ingredients of known acute toxicity: Sodium hydroxide, 50% solution

4 First aid measures

After inhalation:	Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
After eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
After ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Information for doctor:	Show this safety data sheet to the doctor in attendance
Symptoms/effects; acute and delayed:	Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. May cause blindness. Destructive to mucous membranes, eyes and skin.
Immediate medical attention and special treatment needed:	See above

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents:	Use extinguishing media appropriate to surrounding fire conditions. Contact with water and molten salts causes a violent reaction
Special hazards caused by the material, its products of combustion or resulting gases:	Oxides of sodium
Special fire fighting procedures:	Wear self-contained breathing apparatus (SCBA) and fully protective fire fighting equipment/clothing
Unusual fire and explosion hazard:	May cause fire and explosion upon contact with incompatibles

6 Accidental release measures

Person-related safety precautions:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Measures for environmental protection:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Measures for cleaning/collecting:	Soak up with inert absorbent material. Place in a suitable container for proper disposal.
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

7 Handling and storage

Information for safe handling:	Avoid contact with skin and eyes. Avoid breathing vapors, mist or gas. Use with adequate ventilation.
Information about protection against explosions and fires:	Normal measures for preventive fire protection.
Storage requirements to be met by storerooms and containers:	Keep container tightly closed in dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Incompatibility (avoid contact with):	Strong acids. Metals, explosives, organic peroxides, organic halogen compounds, especially trichloroethylene. Contact with nitromethane and other similar nitro compounds cause formation of shock-sensitive salts. Contact with aluminum, tin and zinc forms hydrogen gas.
Further information about storage conditions:	No further information available

8 Exposure controls/personal protection

Ventilation requirements:	Use with adequate ventilation
Components with exposure limits that require monitoring:	OSHA PEL: TWA 2 mg/m ³ ACGIH TLV: 2 mg/m ³ ceiling
Additional information:	No further information available
General protective and hygienic measures:	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Personal protective equipment:	
Respiratory protection: (Use only NIOSH or CEN approved Equipment)	Full-face respirator with multi-purpose combination respirator cartridge
Hand protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with product.
Eye protection:	Tight fitting safety goggles. Face shield (8 inch minimum).
Skin protection:	Protective work clothing including full length chemical apron
Additional protective equipment:	Sufficient to prevent contact. Emergency eyewash and safety shower.
Precautionary labeling:	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe vapor, mist, or gas

9 Physical and chemical properties

Physical state:	Liquid
Color:	Colorless
Odor:	Odorless

Odor threshold:	No data available
Molecular Weight (Calculated):	40.00
pH	~14
Melting point/freezing point/range:	12 C
Boiling point/range:	140 C
Sublimation temperature/start:	No data available
Decomposition temperature:	No data available
Flammability (solid, gas):	No data available
Flash point:	No data available
Autoignition temperature:	No data available
Danger of explosion:	May cause fire and explosion upon contact with incompatibles
Flammable limits:	
Lower:	No data available
Upper:	No data available
Evaporation Rate:	No data available
Vapor pressure (mm Hg):	13 @ 60 C
Vapor density:	No data available
Specific gravity:	1.53 g/mL @ 20 C
Bulk density:	No data available
Solubility in/Miscibility with water:	Completely miscible
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available

10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions:	No data available
Conditions to be avoided:	Absorbs carbon dioxide from the air. Keep tightly closed. Avoid contact with incompatibles. See section 7 for information on proper handling and storage
Materials to be avoided:	Strong acids See section 7 for information on proper handling and storage
Dangerous reactions:	May cause fire and explosion upon contact with incompatibles.
Hazardous decomposition products: (thermal and other)	Oxides of sodium

11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rabbit LD ₅₀ : 500 mg/kg intraperitoneal-mouse LD ₅₀ : 40 mg/kg
Irritation or corrosion of skin:	skin-rabbit: 500 mg/24H:SEV
Irritation or corrosion of eyes:	eye-rabbit: 0.5 mg/24H:SEV
Primary irritant or corrosive effect:	
on the skin:	Severe
on the eye:	Severe
Sensitization:	No data available
Potential health effects:	
Inhalation:	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract
Ingestion:	See below
Skin:	See below
Eyes:	See below
Signs and symptoms of exposure:	Harmful if swallowed, inhaled or absorbed through skin. Poison by intraperitoneal route. Moderately toxic by ingestion. This material has a markedly corrosive action upon all body tissue causing burns and frequently deep ulceration, with ultimate scarring. Mists and vapors of this compound cause small burns, and contact with the eyes rapidly causes severe damage to the delicate tissue. Ingestion causes very serious damage to the mucous membranes or other tissues with which contact is made. It can cause perforation and scarring. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
Carcinogenicity:	Not listed as a carcinogen with IARC, ACGTIH, NTP or OSHA
Additional information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	Mosquito fish LC ₅₀ : 125 mg/L:96H
Toxicity to daphnia and other aquatic invertebrates:	Daphnia magna EC ₅₀ : 40.38 mg/L:48H
Toxicity to algae:	No data available
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	No data available
Mobility in soil:	No data available
Other adverse effects:	Very toxic to aquatic life

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT



Proper shipping name:	Sodium hydroxide, solution
DOT Hazard Class:	8
UN Identification number:	UN1824
Label(s):	Corrosive
Packing group:	II
Reportable quantity (RQ):	454 kg (as sodium hydroxide)
North American Emergency Response Guidebook No.:	154

Air transport ICAO-TI and IATA-DGR:



Proper shipping name:	Sodium hydroxide, solution
DOT Hazard Class:	8
UN Identification number:	UN1524
Label(s):	Corrosive
Packing group:	II
Reportable quantity (RQ):	454 kg (as sodium hydroxide)
North American Emergency Response Guidebook No.:	154

UPS Ground / FedEx Ground



Proper shipping name:	Sodium hydroxide, solution
DOT Hazard Class:	8
UN Identification number:	UN1824
Label(s):	Corrosive
Packing group:	II
Reportable quantity (RQ):	454 kg (as sodium hydroxide)
North American Emergency Response Guidebook No.:	154

UPS Air



Proper shipping name:	Sodium hydroxide, solution
DOT Hazard Class:	8
UN Identification number:	UN1824
Label(s):	Corrosive
Packing group:	II
Reportable quantity (RQ):	454 kg (as sodium hydroxide)
North American Emergency Response Guidebook No.:	154

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:
SARA Section 311 / 312 hazards:
SARA Section 313 components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302 Acute Health Hazard
This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

California Proposition 65 components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

TSCA:

Material is listed on TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.