MATERIAL SAFTY DATA SHEET

SODIUM HYDROXIDE

PRODUCT:SODIUM HYDROXIDE

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

WATER SPECIALIST SUPPLY CO.,LTD.
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PREPARED BY..... Water Specialist Supply CO.,LTD

PREPARATION DATE..... 15/August/16

PRODUCT NAME.....SODIUM HYDROXIDE(CAUSTIC SODA)

CHEMICAL FORMULA.....NaOH .

MOLECULAR WEIGHT.....39.9971 g mol^{-1}.

CHEMICAL FAMILY..... ALKALI INORGANIC COMPOUND .

EMERGENCY PHONE NO..... (+66)34-440-851 to 3 or (+66)95-367-5790

SECTION 02 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Composition:	Guaranteed	CAS No.	EINECS/ELINCS
Sodium Hydroxide (NaOH)	98.5%min	1310-73-2	215-185-5
Sodium Carbonate (Na_2CO_3)	1.0%max	497-19-8	207-838-8
Sodium Chloride (NaCL)	0.03%max	7647-14-5	231-598-3
Ferric Oxide (Fe_2O_3)	0.005%max	1309-37-1	215-168-2

SECTION 03: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED.
HARMFUL IF INHALED.CAUSE BURNS TO ANY AREA OF CONTACT.
REACTS WITH WATER,ACIDS AND OTHER MATERIALS.

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Health Rating : 4-Extreme (Position)
Flammability Rating : 0-None
Reactivity Rating : 2-Moderate
Contact Rating : 4-Extreme (Corrosive)
Lab Protective Equip :GOGGLES and SHIELD;LAB COAT and APRON;VENTHOOD
. PROPER GLOVE
Storage Color Code : White Stripe (Store Separately)

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POTENTIAL HEALTH EFFECTS

Inhalation: Severe irritant.Effects from inhalation of dust or mist vary from mild irritation to serious damage of the upper respiratory tract, depending on severity of exposure. Symptoms may include sneezing,sore throat or runny nose.Severe pneumonitis may occur.

Ingestion: Corrosive! Swallowing may cause severe burns of mouth,throat,and stomach. Severe scarring of tissue and death may result.Symptoms may include bleeding,vomiting,diarrhea, fall in blood pressure.Damage may appears days after exposure.

Skin Contact: Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.

Eye Contact : Corrosive! Cause irritation of eyes,and with greater exposures it can cause burns that may result in permanent impairment of vision,even blindness.

Chronic Exposure: Prolonged contact with dilute solutions or dust has a destructive effect upon tissue.

Aggravation of Pre-existing Condition: Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

Note to Physicians: Perform endoscopy in all cases of suspected sodium hydroxide ingestion. In cases of severe esophageal corrosion, the uses of therapeutic doses of steroids should be considered. General supportive measures with continual monitoring of gas exchange, acid-base balance, electrolytes, and fluid intake are also required.

SECTION 04 : FIRST AID MEASURES

INSTRUCTIONS:

Inhalation:

Remove to fresh air .If not breathing, give artificial respiration.If breathing is difficult,give oxygen.Call a physician.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.Get medical attention immediately.

Ingestion :

DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person.

Skin Contact

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.Call a physician, immediately. Wash clothing before reuse.

Note to Physician : Perform endoscopy in all cases of suspected sodium hydroxide ingestion. In cases of severe esophageal corrosion, the use of therapeutic doses of steroids should be considered.General supportive measures with continual monitoring of gas exchange, acid -base balance, electrolytes, and fluid intake are also required.

SECTION 05 :FIRE FIGHTING MEASURES

Fire:

Not considered to be a fire hazard.Hot or molten material can react violently with water. Can react with certain metals,such as aluminium, to generate flammable hydrogen gas

Explosive :

Not considered to be an explosion hazard

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.Adding water to caustic solution generates large amounts of heat.

Special information :

In the event of a fire,wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

SECTION 06 : ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill.Keep unnecessary and unprotected people people away from area of spill.Wear appropriate personal protective equipment as specified in Section 08.Spill:Pick up and place in a suitable container for reclamation or disposal,using a method that does not generate dust.

Do not flush caustic residues to sewer.Residues from spills can be diluted with water,neutralised with dilute acid such as acetic, hydrochloric or sulfuric.Absorb neutralised caustic residue on clay,vermiculite or other inert substance and package in suitable container for disposal.

SECTION 07 : HANDLING AND STORAGE

Keep in a tightly closed container. Protect against from physical damage. Store in a cool,dry, ventilated area away from sources of heat, moisture and incompatibilities. Always add the caustic to water while stirring;never the reverse.Containers of this material may be hazardous when empty since they retain product. Do not store with aluminium or magnesium. Do not mix with acids or organic materials.

SECTION 08 : EXPOSE CONTROL/PERSONAL PROTECTION

Ventilation System :

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source,preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A manual of Recommended Practices, most recent edition, details.

Personal Respirators(NIOSH Approved) :

If the exposure limits is exceeded and engineering controls are not feasible,a half face piece particulate respirator(NIOSH type N975 or better filters) may be worn for up ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier ,whichever is the lowest.A full-face piece particulate respirator(NIOSH type N100 filters) may be worn up to 50 times the exposure limit,or the maximum use concentration specified by the appropriate regulatory agency , or respirator supplier, whichever is the lowest.If oil particles (e.g.lubricants,cutting fluids,glycerine,etc.)are present,use a NIOSH type R or P filter.For emergencies or instance where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

WARNING :Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection : Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection : Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 09 :PHYSICAL AND CHEMICAL PROPERTIES

Physical state : White,deliquescent pellets or white flake.

Odour : Odourless

Solubility : Soluble

Specific Gravity : 2.13 g/cm^3

Vapor Pressure (mm Hg) : 1mm Hg@ 739 °C

Vapor density (AIR=1) : >1.0

Evaporation Rate(BuAc=1) : No information found

Boiling Point : 1,388 °C (2,530 °F) @ 760mm Hg

Melting point(C) : 318 °C(604 °F).

PH : 13-14(5%aq.soln.)

Autoignition Temperature : Not applicable

% Volatlles by the volume@21C(70F): 0

Flash Point : Not applicable

Decomposition Temperature : Not available

Viscosity : Not available

NFPA Rate : Health : 3 ;Flammability: 0;Reactivity: 1

Molecular Formula : NaOH

Molecular Weight : 40.00

How to detect this compound: Sampling and analyses may be performed by collection of sodium hydroxide in a glass bubbler containing hydrochloric acid, followed by subsequent titration. Also, detector tubes certified by NIOSH under 42 CFR Part 84 or other direct-reading devices calibrated to measure sodium hydroxide may be used.

SECTION 10:STABILITY AND REACTIVITY

Stability:

Stable under ordinary conditions of use and storage.Very hygroscopic can slowly pick up moisture from air and react with carbon dioxide from air to form sodium carbonate.

Hazardous Decomposition Product :

Sodium oxide. Decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.

Hazardous Polymerization :

Will not occur.

Incompatibilities :

Sodium hydroxide in contact with acids and organic halogen compounds, especially trichloroethylene, may causes violent reactions. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Contact with metals such as aluminium, magnesium, tin, and zinc cause formation of flammable hydrogen gas. Sodium hydroxide,even in fairly dilute solution,react readily with various sugars to produce carbon monoxide to ensure safety of personnel before vessel entry.

Conditions to Avoid :

Moisture, dusting and incompatibles.

SECTION 11 : TOXICOLOGICAL INFORMATION

Irriation Data :

Draize test,Rabbit, Skin: 500 mg/24H serve
Draize test,Rabbit, Eye : 50 ug/24 H serve
Inhalation,mouse : LC50 = 1200 mg/m3/2H;
Oral,mouse:LD50 =6600 mg/kg;

Carcinoogenicity:

Not listed by ACGIH,IARC,NIOSH,NTP,or OSHA.

Reproductive Toxicity :

Investigated as a mutagen:

	Cancer Lists	NTP Carcinogen	
Ingredient	Know	Anticipated	IARC Category
Sodium Hydroxide (1310-73-2)	No	No	None

Epidemiology : No information available.
Teratogenicity: No information available.
Reproductive Effects : No information available.
Neurotoxicity : No information available.
Mutagenicity : No information available.
Other Studies : See actual entry in RTECS for complete information.

SECTION 12 : ECOLOGICAL CONSIDERATION

Environmental Fate :

Highly toxic to aquatic life. 240 ug/l (Bluegill) 96-hour TLM LC50

SECTION 13 : DISPOSAL CONSIDERATION

The materials resulting from clean-up operations may be hazardous waste and, therefore subject to specific regulations. Package, store, transport and dispose of all clean-up materials and any contaminated equipment in accordance with all applicable federal, state and local environmental health regulations. Shipments of waste materials are subject to manifesting requirements per applicable regulations. Dispose in approved chemical disposal area or in a manner which complies with all local, state and federal regulations. **Do not flush to sewer.**

SECTION 14 : TRANSPORT INFORMATION

DOT Proper Shipping Name: Sodium Hydroxide, Solid
DOT Hazard Class/ I.D. No.: 8, UN1823, II

SECTION 15 :REGULATORY INFORMATION

Reportable Quantity: 1000 Pounds (454 Kilograms)
All components of this product are listed on the TSCA Inventory.
CERCLA Hazardous Substance: Listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance with a reportable quantity of 1000 pounds. Releases to air, land or water which exceed the RQ must be reported to the National Response
NFPA Rating: Health - 3; Flammability - 0; Instability - 1
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
Carcinogenicity Lists: NTP: No **IARC Monograph:** No **OSHA Regulated:** Yes

SECTION 16 :OTHER INFORMATION

Synonyms/Common Names: Sodium Hydroxide; Soda Lye; Lye; Caustic Soda
Chemical Family/Type: Alkali

Disclaimer :

Water Specialist Supply(WSS THAILAND) CO.,Ltd provide information contained here in good faith but make no representation as to its comprehensiveness or accuracy.This document is intended only as a guide to the appropriate precautionary handing of the material by a properly trained person using this product.Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.