

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identifier: Caustic Soda (All Grades)
Synonyms: Caustic Soda Solution, Sodium Hydroxide Solution
Intended use: pH neutralizer , Pulping and Bleaching, Detergent, Soaps
Uses Advised Against: None known
Company Identification: DPC Industries, Inc.
DPC Enterprises, LP
DXI Industries, Inc.
DX Terminals
Petra Chemical Company
PO Box 24600
Houston , TX 77229-4600
(800)424-9300
(281)457-4888
www.dxgroup.com
Emergency :
CHEMTREC (USA)
24 hour Emergency Telephone No.

2. Hazard identification of the product

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral Causes severe skin burns and eye damage Causes serious eye damage	Category 4 Category 1A Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard.	Category 3
Label elements Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.		
 		
Signal Word	Danger	
Hazard Statements	Causes severe skin burns and eye damage. May be corrosive to metals. Harmful if swallowed.	
Precautionary Statements		
Prevention	Keep only in original container. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Do not breathe mist or vapor. Wash thoroughly after handling. Avoid release to the environment.	
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with shower/ water. Wash contaminated clothing before reuse. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - Continue rinsing. Immediately call a POISON CENTER or doctor / physician. Collect spillage.	
Storage	Store locked up.	
Disposal	Dispose of contents / container in accordance with local / national regulations.	

3. Composition/information on ingredients

Synonyms: Caustic Soda Solution, Sodium Hydroxide Solution

Ingredient	CAS Number	Weight %	
Sodium hydroxide	1310-73-2	10 - 52	Substance classified with a health or environmental hazard. Substance with a workplace exposure limit.
Sodium chloride	7647-14-5	1.0 - 10	Substance classified with a health or environmental hazard.

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4. First aid measures

General	Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Inhalation	Move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Call emergency medical care.
Eyes	Irrigate copiously with clean fresh water for at least 10 minutes, holding the eyelids apart and seek medical attention. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Skin	Remove contaminated clothing. Wash skin thoroughly with water for at least 15-20 minutes. Get medical attention immediately! Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.
Ingestion	If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. Immediately rinse mouth and drink plenty of water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to an unconscious person. Do not use mouth-to-mouth method if victim ingested the substance.

Most important symptoms and effects, both acute and delayed

Overview	Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Keep victim under observation. EYES: Causes serious eye damage. SKIN: May be harmful in contact with skin. Causes severe skin burns and eye damage.

5. Fire-fighting measures

Extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). Use media appropriate for surrounding area.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire. Do not use halogenated extinguishing agents.
Special hazards arising from the substance or mixture	Sodium oxide. Decomposition by reaction with certain metals releases flammable and explosive hydrogen gas. Do not breathe mist / vapors / spray.
Special protective equipment and precautions for firefighters	Fire fighters should enter the area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surface should be exposed
Advice for fire-fighters	Fire fighters should enter the area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surface should be exposed. Move containers from fire area if you can do so without risk. Use water spray to cool containers. ERG Guide No. 154

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Observe good industrial hygiene practices. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained
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6. Accidental release measures (Cont.)

Environmental precautions	Avoid discharge into drains, waterways or onto ground. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Following product recovery, flush area with water. Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.
Methods and material for containment and cleaning up	CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover. As an immediate precautionary measure, isolate spill or leak area in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

7. Handling and storage

Precautions for safe handling	Use caution when combining with water; DO NOT add water to caustic; ALWAYS add caustic to water while stirring to minimize heat generation. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store in corrosive resistant container with a resistant inner liner. Store away from incompatible materials (Reacts with water, acids, metals and reducing sugars (fructose)). Store at temperatures not exceeding 40°C/104°F. Compatible storage materials may include, but not be limited to, the following: nickel and nickel alloys, steel, plastics, plastic or rubber-lined steel, FRP, or Derakane vinyl ester resin. Do not allow material to freeze.

8. Exposure controls and personal protection

Control Parameters

Occupational Exposure Limits

CAS No.	Ingestion	Source	Value
1310-73-2	Sodium hydroxide	OSHA	TWA 2 mg/m3
		ACGIH	Ceiling: 2 mg/m3
		NIOSH	Ceiling 2 mg/m3
7647-14-5	Sodium chloride	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

Exposure controls

Eyes	Wear chemical goggles and/or face shield.
Skin	Chemical impervious gloves. Wear chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level, an approved respirator must be worn. Respirator type: Chemical respirator with organic vapor cartridge and full facepiece.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse. Routinely wash work clothing and protective equipment to remove contaminants.
Engineering Controls	Good general ventilation should be considered. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

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9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless to Slightly Hazy Liquid
Odor	Odorless
Odor threshold	Not Measured
pH	14
Melting point / freezing point	50 - 53 °F (10 - 11.67 °C) (50% solution)
Initial boiling point and boiling range	266 - 284 °F (130 - 140 °C) (50% solution)
Flash Point	Not Applicable
Evaporation rate	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Not Measured
Vapor pressure (Pa)	23.76 mm Hg (approximately) (77 °F (25 °C))
Relative Density	1.525 (50% solution)
Specific Gravity	1.11 - 1.53
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature (°C)	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
VOC %	Not Measured

Other information

Molecular formula	NaOH
Molecular weight	40.1 g/mol

10. Stability and reactivity

Reactivity	Contact with metal may release flammable hydrogen gas.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Corrosive to aluminum, tin, zinc, copper and most alloys in which they are present including brass and bronze. Corrosive to steels at elevated temperatures above 40°C (104°F).
Incompatible materials	Oxidizing agents. Acids. Phosphorus. Aluminum. Zinc. Tin. Initiates or catalyzes violent polymerization of acetaldehyde, acrolein or acrylonitrile.
Hazardous decomposition products	Contact with metals (aluminum, zinc, tin) and sodium tetrahydroborate liberates hydrogen gas.

11. Toxicological information

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Sodium hydroxide - (1310-73-2)	6,600.00, Mouse - Category: NA	1,350.00, Rabbit - Category: 4	600.00, Mouse - Category: NA	No data available	No data available
Sodium chloride - (7647-14-5)	1,350.00, Rabbit - Category: 4	100.00, Rat - Category: 2	40.00, Mouse - Category: NA	10,500.00, Rat - Category: NA	No data available

Ingestion	Causes digestive tract burns. Harmful if swallowed.
Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes severe eye burns. Causes serious eye damage.

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11. Toxicological information (Cont.)

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result.
Acute toxicity	Harmful if swallowed
Acute Toxicity (mouth)	Not Applicable
Acute Toxicity (skin)	May be harmful in contact with skin.
Acute Toxicity (inhalation)	Not Applicable
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Eye damage/irritation	Causes serious eye damage.
Sensitization (respiratory)	Not Applicable
Sensitization (skin)	Not Applicable
Germ toxicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive Toxicity	No data available
Specific target organ systemic toxicity (single exposure)	Not available
Specific target organ systemic Toxicity (repeated exposure)	Not available
Aspiration hazard	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Chronic effects	Prolonged exposure may cause chronic effects.

12. Ecological information

Toxicity - Harmful to aquatic life.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Sodium hydroxide - (1310-73-2)	196.00, Poecilia reticulata	40.38, Ceriodaphnia dubia	Not Available
Sodium chloride - (7647-14-5)	1,100.00, Freshwater Fish	3,310.00, Daphnia magna	Not Available

Persistence and degradability	Expected to degrade rapidly in air.
Bioaccumulative potential	The product is not expected to bioaccumulate.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Waste treatment methods:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Waste from material:	The waste code should be assigned in discussion between the user, the producer and the waste disposal company. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Container Management:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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14. Transport information

Transport hazard class(es)	
UN / NA Number:	UN1824
UN Proper shipping name	Sodium hydroxide solution
DOT (Domestic Surface Transportation)	
DOT Proper Shipping Name:	Sodium hydroxide solution
DOT Hazard Class	8
DOT Label:	8
DOT Packing Group:	II
CERCLA/DOT RQ:	1000 lbs.
Environmental hazards:	IMDG Marine Pollutant: No
Special precautions for user:	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

Regulatory Overview:	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory.	
US EPA Tier II Hazards:	Fire:	No
	Sudden Release of Pressure:	No
	Reactive:	Yes
	Immediate (Acute):	Yes
	Delayed (Chronic):	No
SARA 302 Extremely Hazardous Substance:		No
SARA 311/312 Chemicals :		Yes
SARA 313 (TRI)		No
CAA Section 112 Hazardous Air Pollutant		No
CAA Section 112R Risk Management Plan		No
State Regulations:	N.J. RTK Substances (>1%)	Not listed
	Penn RTK Substances (>1%)	Listed
	California Prop 65	Not listed

16. Other information

NSF Maximum Use Level (STD 60): Check BOL for facility Data. (100 to 250 mg/L)

Revision Information: 1/1/2017 – Section 3. Sodium hydroxide - Weight % corrected (10 – 52%).

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

THE USER IS CAUTIONED TO PERFORM HIS OWN HAZARD EVALUATION AND TO RELY ON HIS OWN DETERMINATIONS.