



Section 01 - Identification

Product Identifier	pH Plus Liquid 5%
Other Means of Identification	5% sodium hydroxide solution, 5% caustic soda.
Product Use and Restrictions on Use	Acid neutralization, petroleum refining, manufacture of paper products, metal cleaning, regeneration of ion exchange resins.
Initial Supplier Identifier	Advance Chemicals Ltd. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Irritation	Category 1

Physical Hazards

Corrosive To Metals	Category 1
----------------------------	------------

Danger

Hazard Statement

H314 – Causes severe skin burns and eye damage.
H290 – May be corrosive to metals.

Pictograms



Precautionary Statements

P234 – Keep only in original container.
P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P260 – Do not breathe mist, vapors or spray.
P390 – Absorb spillage to prevent material damage.
P363 – Wash contaminated clothing before reuse.
P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin
 P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P310 – Immediately call a POISON CENTER or doctor/physician.
 P405 – Store locked up.
 P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Sodium Hydroxide	1310-73-2	5%	Not Available
Water	7732-18-5	95%	

Section 04 - First Aid Measures

Inhalation	If symptoms are experienced, remove source of contamination or move victim to fresh air. Seek immediate medical attention.
Skin Contact / Absorption	Avoid direct contact. Remove contaminated clothing. Rinse skin with lukewarm, gently flowing water for at least 60 minutes. Seek immediate medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard.
Eye Contact	Immediately flush eye(s) with lukewarm, gently flowing water for 60 minutes while forcibly holding the eyelids open to ensure complete irrigation of the eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do NOT induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Seek immediate medical attention.
Additional Information	Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Product does not burn. Use extinguishing media compatible with sodium hydroxide and appropriate for surrounding fire.
Unsuitable Extinguishing Media	Carbon dioxide.
Specific Hazards Arising From the Chemical	Toxic sodium oxide fumes can be generated by thermal decomposition at elevated temperatures. Closed containers may rupture violently when heated.
Special Protective Equipment for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and clothing.
Further Information	Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.
Environmental Precautions	Prevent material from entering sewers and waterways.
Methods and Materials for Containment and Cleaning Up	Solutions can be recovered or carefully diluted with water and cautiously neutralized with acids such as acetic acid or hydrochloric acid. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 07 - Handling and Storage

Precautions for Safe Handling	This material is EXTREMELY CORROSIVE and HIGHLY REACTIVE. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated place. Keep container tightly closed and away from incompatible materials.
Incompatibilities	Metals, strong acids, organic halogen compounds and organic nitro compounds.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Sodium Hydroxide	ACGIH	TLV-C	2mg/m ³
	OSHA	PEL-T-TWA	2mg/m ³

Engineering Control(s)

Ventilation Requirements Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face Chemical goggles, full-face shield, or a full-face respirator should be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Hand Protection Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Skin and Body Protection Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

Respiratory Protection NIOSH RECOMMENDATIONS FOR SODIUM HYDROXIDE CONCENTRATIONS IN AIR (3):
Up to 10 mg/m³:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode. Any powered air-purifying respirator with a high-efficiency particulate filter.
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter. Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece.

Thermal Hazards Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State Viscous liquid

Colour Clear to slightly turbid

Odour	Odourless
Odour Threshold	Not Applicable
<u>Property</u>	
pH	14
Melting Point/Freezing Point	Not Available
Initial Boiling Point and Boiling Range	Not Available
Flash Point	Not Applicable
Evaporation Rate	The only evaporation that occurs is water.
Flammability	Non-Flammable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20°C)	~0
Vapour Density (Air=1)	Not Applicable
Relative Density	Not Available
Solubility(ies)	Very soluble in water. Soluble in absolute alcohol, methanol and glycerol; moderately soluble in ethanol; insoluble in acetone and diethyl ether.
Partition Coefficient: n-octanol/water	Not Applicable (dissociates)
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive Properties	Not Available
Specific Gravity (Water=1)	1.057
% Volatiles by Volume	Not Available
Formula	NaOH
Molecular Weight	40.00

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Normally stable if kept dry. Rapidly absorbs carbon dioxide and water from the air forming sodium carbonate.
Possibility of Hazardous Reactions	Polymerization will not occur.
Conditions to Avoid	Contact with soft metals produces hydrogen gas. Product may absorb carbon dioxide gas from the atmosphere or other sources and form sodium carbonate.

Incompatible Materials	Metals, strong acids, organic halogen compounds and organic nitro compounds.
Hazardous Decomposition Products	Sodium oxide fumes may be generated by thermal decomposition at high temperatures.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD ₅₀	Dermal LD ₅₀	LC ₅₀
Sodium Hydroxide (5%)	2.8-6.8 g/kg (rat)	27 g/kg (rabbit)	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Sodium Hydroxide	Not considered to be carcinogenic by ACGIH and IARC.

Skin Corrosion/Irritation	Corrosive. Capable of producing serious burns, blisters, ulcers and permanent scarring.
Ingestion	Ingestion can result in burns to the lips, tongue, throat, esophagus and stomach; abdominal pain; nausea; vomiting; diarrhea and death.
Inhalation	Inhalation is only likely to occur if an aerosol is formed as sodium hydroxide does not readily form a vapour. Exposure to aerosol may lead to irritation of respiratory tract, inflammation of lungs, difficulty breathing. May cause pulmonary edema.
Serious Eye Damage/Irritation	Corrosive. Capable of producing severe eye burns and permanent injury.
Respiratory or Skin Sensitization	Sodium hydroxide is not known to be a skin sensitizer.
Germ Cell Mutagenicity	The available evidence does not suggest that sodium hydroxide is a mutagen.
Reproductive Toxicity	Sodium hydroxide is not known to cause reproductive toxicity.
STOT-Single Exposure	Breathing may result in respiratory irritation.
STOT-Repeated Exposure	Not Applicable
Aspiration Hazard	Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May cause severe pneumonitis and destruction of lung tissue. May cause pulmonary edema.
Synergistic Materials	Not Available

Section 12 - Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Sodium Hydroxide	Not Available	LC ₅₀ (Gambusia affinis, 96hr): 125mg/L	EC ₅₀ (Ceriodaphnia dubia, 48hr): 40.38mg/L
Biodegradability	Not biodegradable.		
Bioaccumulation	Does not bioaccumulate.		
Mobility	Very mobile in soil and very soluble in water.		
Other Adverse Effects	Toxic to aquatic life through an immediate raise in pH to toxic levels.		

Section 13 - Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
--	---

Contaminated Packaging

Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transport Information

UN Number	UN 1824	
UN Proper Shipping Name	SODIUM HYDROXIDE SOLUTION	
Transport Hazard Class(es)	8	
Packaging Group	III	
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.	
Special Precautions	Not Available	
Transport in Bulk	Not Available	
Additional Information	<u>Packing Group</u>	<u>Limited Quantity Index</u>
	II	1 L
	III	5 L

TDG

Other Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 - Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 - Other Information

Preparation Date November 12, 2015

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution[®] initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

- 1) CHEMINFO
- 2) eChemPortal
- 3) TOXNET

- 4) Transportation of Dangerous Goods Canada
- 5) CHRIS
- 6) HSDB
- 7) ECHA

Advance Chemicals Ltd. - Locations

Corporate Head Office: 1500 Quebec Avenue, Saskatoon, SK, S7K 1V7

Phone: 1(306) 664 – 2522

Fax: 1(888) 281-8109

www.cleartech.ca

24 Hour Emergency Number - All Locations – 1(306) 664-2522