



**Westlake CA&O
Corporation**

P.O. Box 527
Calvert City, KY 42029-0527

MATERIAL SAFETY DATA SHEET

ISSUED: 06/01/06

SODIUM HYDROXIDE SOLUTION - 50%

REVISED: 1/01/09

SECTION I - PRODUCT IDENTIFICATION

Westlake CA&O
2468 Industrial Parkway
P O Box 527
Calvert City, KY 42029

Telephone No.: (270) 395-4151
Transportation Emergency No.:
CHEMTREC: (800) 424-9300
Medical Emergency No.:
POISON CENTER: (216) 379-8562

Chemical Family: Alkali

Chemical Name/Synonyms: Solutions of: Caustic, Caustic Soda, Lye, Sodium hydrate

Trade Mark: None

Formula: Mixture

C.A.S. Registry No.: 1310-73-2

TSCA Inventory Status: All ingredients are listed on the USEPA's TSCA inventory

Canadian Domestic Substances List Status: All ingredients have been nominated or are eligible for inclusion

Workplace Hazardous Materials Information System (WHMIS) Classification: E

Product Use: Caustic Applications

SARA 313 Information: Not Applicable

SECTION II - HAZARDOUS INGREDIENTS

Hazard Summary Statement: CAUTION! CORROSIVE LIQUID. Contact with skin results in severe burns with possible deep ulceration. Eye contact will produce severe and painful injury. Inhalation of mists causes irritation of the nose, throat, mucous membranes and lungs.

<u>Material</u>	<u>C.A.S. Number</u>	<u>Amount in Product</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Sodium Hydroxide ^{2,4,5,6}	1310-73-2	50%	2 mg/m ³ Ceiling	2 mg/m ³

N.A. - Not Applicable

N.E. - Not Established

Legislative Footnotes

- ¹ Ingredient listed on SARA Section 313 List of Toxic Chemicals.
- ² Ingredient listed on the *Pennsylvania Hazardous Substances List*.
- ³ Ingredient listed on the California listing of *Chemicals Known to the State to Cause Cancer or Reproductive Toxicity*.
- ⁴ Ingredient listed on the *Massachusetts Substance List*.
- ⁵ *Workplace Hazardous Materials Information System* ingredient found on the Ingredient Disclosure List - Canada.
- ⁶ Ingredient listed on the *New Jersey Right to Know Hazardous Substance List*.

Notes

TLV-TWA - Threshold Limit Value - Time Weighted Average guideline for concentration of the chemical substance in the ambient workplace air. American Conference of Governmental Industrial Hygienists (ACGIH).

OSHA PEL - OSHA Permissible Exposure Limit, 8-hour TWA. 29 CFR 1910.1000, Transitional Limits column, Table Z-1-A, Table Z-2 and Table Z-3.

SECTION III - PHYSICAL DATA

Appearance: Colorless to gray,
 syrupey liquid

Odor: Mild, slightly pungent

Percent Volatiles: 50%

Solubility in Water: Soluble

Physical State: Liquid

Specific Gravity: 1.49 @ 65.6°C (150°F)

pH = 14 (strong alkali)

Boiling Point: 148°C (298°F)

Vapor Pressure: 19 mm Hg @ 65.5°C (150°F)

Vapor Density: N.A.

SECTION IV - FIRE & EXPLOSION HAZARD DATA

Flash Point: Not combustible.

Lower Explosive Limit (LEL): Not Applicable

Upper Explosive Limit (UEL): Not Applicable

Self-Ignition Temperature: Not Applicable

Notes

Flash Point -- The lowest initial temperature of air passing around the specimen at which sufficient combustible gas is evolved to be ignited by a small external pilot flame.

Self-Ignition Temperature -- The lowest initial temperature of air passing around the specimen at which, in absence of an ignition source, ignition occurs of itself, as indicated by an explosion, flame or sustained glow.

Extinguishing Media: Although not combustible, should a fire involve the product, flood with water using care not to splash or splatter this material.

Special Firefighting Procedures: As with most fire conditions, it is proper to wear a positive pressure self-contained breathing apparatus (SCBA). Personnel not wearing suitable protection must be removed from the area. In enclosed or poorly ventilated areas, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

Unusual Fire and Explosion Hazards: In contact with moisture or water sufficient heat may be generated to ignite adjacent combustible materials. Sodium hydroxide solutions can react violently when in contact with chlorinated hydrocarbons and metals such as aluminum, zinc or materials galvanized with zinc with resultant generation of hydrogen.

SECTION V - REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Not combustible.

Incompatibility (Materials to Avoid): This product reacts with water generating heat. Do not add water to this product, always add caustic to water slowly and in small amounts to avoid boiling and spattering. This product reacts violently or explosively with chlorinated hydrocarbons. It attacks leather and wool resulting in destruction of those materials and possible chemical exposure to the individual. Caustic solutions can generate hydrogen gas on contact with aluminum, zinc or materials galvanized with zinc.

SECTION VI - HEALTH HAZARD DATA

Threshold Limit Value: 2 mg/m³ - Ceiling.

Permissible Exposure Limit (PEL): 2 mg/m³

Primary Routes of Exposure: Inhalation, skin and eye contact.

Effects of Overexposure: This material is extremely corrosive to all body tissue. Skin contact will result in severe burns and frequently with deep ulceration. Eye contact will produce severe and painful injury. Inhalation of mist will cause irritation and may even cause damage to the entire respiratory tract varying from mild irritation of mucous membranes to severe pneumonitis. Symptoms may not be immediately painful or visible. Swallowing usually results in severe injury.

Emergency and First Aid Procedures:

Inhalation: Remove affected individual to fresh air. Obtain medical attention immediately.

Eye Contact: Immediately flush eyes with lukewarm water for at least 15 minutes while lifting upper and lower eyelids. Continue to flush the eyes if there is any indication of residual chemical. Seek medical attention immediately.

Skin Contact: Immediately remove contaminated clothing, and flush exposed area with lukewarm water for at least 15 minutes. Continue to flush skin if there is any indication of residual chemical. Seek medical attention immediately.

Ingestion: DO NOT INDUCE VOMITING! Immediately dilute by drinking water or milk, then neutralize with diluted vinegar or fruit juice.

SECTION VII - SPILL & LEAK PROCEDURE

Steps to be taken in case material is released or spilled: Issue a warning: CORROSIVE MATERIAL. Keep non-essential personnel away from spill area. Wear rubber protective clothing, e.g., gloves, boots, aprons, and chemical splash goggles and face shield. Do not touch spilled material. Contain the spill and use absorbents and pumps to remove "ponded" liquid. Transfer the spilled material to caustic resistant containers labeled: CORROSIVE. Avoid flushing chemical into public sewers or water system. With careful handling, dilute acid, preferable acetic acid, may be used to neutralize final traces of caustic. Flush the cleaned area with water.

Waste Disposal Method: HAZARDOUS WASTE. EPA Hazardous Waste Number: D002 (if pH is greater than 12.5). Dispose of in a licensed hazardous waste disposal facility in accordance with all applicable Federal, State and Local health and pollution laws and regulations. (See 40 CFR 261).

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Ventilation should always be provided to draw mists and vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain the ambient workplace atmosphere below the limits listed in Section II.

Respiratory Protection: Wear a NIOSH/MSHA-approved, airline or self-contained respirator whenever exposures exceed the limits listed in Section II. Use in accordance with the manufacturers use limitations and OSHA Standard 1910.134 (29 CFR).

Eye/Face Protection: Chemical goggles with full face shield.

Protective Equipment: Wear impervious (e.g. rubber) gloves, boots or shoes, coveralls or other protective clothing as appropriate to prevent contact with liquid. Check with glove/clothing manufacturers to determine materials resistant to the chemicals shown in Section II.

Additional: *Do not smoke or consume food or beverage in the work areas. Wash thoroughly after handling the product.*

SECTION IX - SPECIAL PRECAUTIONS

Material Handling: Do not breathe mists or vapors. Avoid skin and eye contact. Use under well-ventilated conditions. Utilize good personal hygiene practices, e.g., thoroughly washing after handling the product. Remove contaminated clothing and shower at once. Wash contaminated clothing before reuse. (Discard leather shoes.) **PROVIDE A SAFETY SHOWER AND EYEWASH STATION IN THE WORK AND HANDLING AREAS.**

Storage: Store in water-tight containers in a cool, dry place separate from the normal work area and away from materials that react with sodium hydroxide. Use corrosion resistant structural materials and lighting and ventilation systems in the storage area. Store in suitable, labeled containers and maintain in a tightly closed condition when not in use. Protect containers from physical damage. Post appropriate warning signs.

SECTION X - HAZARD CODES

<u>NFPA (2004)</u> (National Fire Protection Association)		<u>HMIS</u> (Hazardous Materials Identification System)	
Health:	3	Health:	3
Flammability:	0	Flammability:	0
Reactivity:	1	Reactivity:	1
Special:	Corrosive	Personal Protection:	X*

Key:

- 0 = Insignificant
- 1 = Slight
- 2 = Moderate
- 3 = High
- 4 = Extreme

* See MSDS for specified protection

USER'S RESPONSIBILITY

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of the user's operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained within this bulletin should be provided to the user's employees or customers. Westlake CA&O Corporation must rely upon the user to utilize this information to develop appropriate work practice guidelines and employee instructional programs for his or her operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

SHIPPING INFORMATION

IDENTIFICATION - DOMESTIC TRANSPORTATION

Proper Shipping Name (172.101(c)): SODIUM HYDROXIDE SOLUTION
(Technical Name(s)) 172.203(k): (Contains 50% Sodium Hydroxide)
Hazard Class 172.101(d): 8 UN/NA# 172.101(e): UN 1824
Haz. Substance 171.8: Sodium Hydroxide Reportable Quantity: 1,000 Lbs
Inhalation Hazard 172.2a(b): N/A
Package Code 172.101(f): PG II Placarded: CORROSIVE

PACKAGING (Part 173)

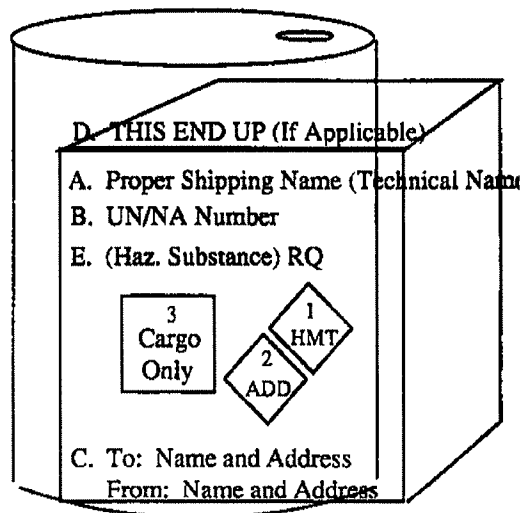
- ◆ Packaging Section (172.101(i)) –(Col. 8(A): 173.154)(Col. 8(B): 173.202)(Col. 8(C): 173.242)
- ◆ General Packaging Section - General 173.24 Hazard Class: CORROSIVE

MARKING

- A. Proper Shipping Name (172.301(a)) (Technical Name) (172.301(b))
- B. UN/NA Number (172.301(a))
- C. Name & Address (172.301(d))
- D. THIS END UP (172.312(a))
- E. Hazardous Substance RQ (Name) (172.324)
ORM Designation (172.316(a))
Inhalation Hazard (172.313(a))

DOMESTIC LABELING

1. HMT LABELS (172.400)
2. Additional Subsidiary Hazard (172.402(a))



IATA 2005 Edition

Proper Shipping Name (Col. B): Sodium Hydroxide Solution
Class/Division (Col. C): 8 Subsidiary Risk (Col. D): N/A
UN/ID# (Col. A): UN 1824
Carrier Special Provisions (Col. M): A3

PACKAGING

- ◆ Max. Qty. Per Pkg. (Cols. H/J) - Passenger: 1 Liter Cargo: 30 Liters
- ◆ Packaging Instructions (Cols. G/I) - Passenger: 809 Cargo: 813