



Eilat Swimming Pools L.T.D מ"מ אילת בריכות שחיה בע"מ

שירות-אספקה-אחזקה-ייעוץ לבריכות שחיה ומערכות מים

כימיקלים- רובוטים - בקרה ממוחשבת - מכשירי מדידה ובקרה - חלקי חילוף - אביזרי PVC - משאבות

Liquid Caustic Soda, 50% Solution

Material Safety Data Sheet

General

Chemical Name: **Sodium Hydroxide in Aqueous Solution**

Synonyms: **Sodium Hydroxide (50% solution); Sodium Hydrate; Lye, Alkali**

Molecular formula: **NaOH/H₂O**

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Formula Weight: **40**

Composition/Information on Ingredients:

<u>Material</u>	<u>CAS #</u>	<u>% by Weight</u>
Sodium Hydroxide	1310-73-2	49-51%
Sodium Chloride	7647-14-5	<1.0%
Sodium Chlorate	7775-09-9	<0.2%
Water	7732-18-5	BAL

Exposure Guidelines: ACGIH (TWA) 2 mg/m³ (ceiling)

ACGIH (STEL): None established

OSHA (TWA): 2 mg/m³ (ceiling)

OSHA (STEL): None established

OSHA (PEL): 2 mg/m³ (ceiling)

טל: 08-6333027 פקס: 08-6333037

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Hazard Identification

▪ Hazard Rating System:

- NPFA: HEALTH: 3
- FLAMMABILITY: 0
- REACTIVITY: 1

KEY: 0 - Minimal, 1 - Slight, 2 - Moderate, 3 - Serious, 4 - Severe

▪ Potential Health Effects:

- Target Organs: Eyes, respiratory system, skin, and lungs.
- Routes of Exposure: Eye contact, inhalation, skin contact
- Eyes: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Mists may cause eye irritation.
- Skin: Classified as corrosive according to DOT. Short single exposure may cause severe skin burns. A single prolonged exposure is not likely to result in absorption of harmful amounts.
- Ingestion: May cause severe burns of the mouth and throat. Ingestion may cause gastrointestinal irritation or ulceration.
- Inhalation: Mists may cause severe irritation of the upper respiratory tract (nose and throat).
- Systemic (Other target organ) effects: No relevant information found.
- Cancer Information: No relevant information found.
- Teratology (Birth defects): No relevant information found.
- Reproductive effects: No relevant information found.

First Aid Measures

▪ Eye Contact:

- Wash eyes immediately and continuously until assistance arrives for transport to medical facility; wash enroute, if possible.
- If medical assistance is not immediately available, wash for 30 minutes and seek medical attention immediately.

▪ Skin Contact:

- Immediate continued and through washing in flowing water for 30 minutes is imperative while removing contaminated clothing.
- Promot medical consultation is essential.

▪ Inhalation:

- Remove to fresh air if effects occur.
- Consult a physician.

▪ Ingestion

- DO NOT induce vomiting.
- Give large amounts of water or milk if available and transport to medical facility.

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- Notes to Phisician:
 - May cause tissue destruction/stricture.
 - If lavage is performed, suggest endotracheal and/or esophageal control.
 - Material is strong alkali.
 - If burn is present, treat as any thermal burn, ater decontamination.
 - For burns of skin only.
 - Eye irrigation may be necessary for an extended period of time to remove as much caustic as possible.
 - Duration of irrigation and treatment is at the discretion of medical personnel.
 - No specific antidote.
 - Supportive care.
 - Treatment based on judgment of the physician in response to reaction the patient.

Fire and Explosion Data

- Flammability of the Product:
 - Product reacts with water.
 - Reaction may produce heat and/or gases.
 - This reaction may be violent.
 - Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
 - This material does not burn.
- Auto-Ignition Temperature: Not applicable.
- Flash Points (PMCC): NONE
- Hazardous Combustion products: Not applicable.
- Extinguishing Media:
 - This material does not burn.
 - If exposed to fire from another source, use suitable fire extinguishing agent for that fire.
- Fire Fighting Instructions:
 - Keep people away.
 - Isolate fire area and deny unnecessary entry.
 - This material does not burn.
 - Fight fire for other material that is burning.

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Protective Equipment for Fire Fighters:

- Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots and gloves).
- Avoid contact with this material during fire fighting operations.
- If contact is likely, change to full chemical resistant clothing with SCBA.
- This will not provide sufficient fire protection, consider fighting fire from a remote location.
- For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections.

Accident Release Measures

- Protect People:
 - Evacuate area.
 - Clear non-emergency personnel from area.
 - Ventilate area of spill or leak.
- Protect Environment: Contain material to prevent contamination of soil, surface water or ground water.
- Clean-up:
 - Dike spills immediately.
 - Carefully flush small spills of caustic soda solution with water.
 - Attempt to neutralize final traces of caustic soda with dilute acid, preferably acetic acid.

Handling and Storage

- Avoid breathing mist.
- Avoid breathing vapors.
- Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures (ANSI Z117).
- Do not get in eyes, on skin, or clothing.
- Do not take internally.
- Keep away from acids to avoid possible violent reaction.
- Wash contaminated clothing before reuse.
- Wash thoroughly after handling. Exposure can cause burns which are not immediately painful or visible.
- Wear personal protective equipment as described in Exposure Data.
- If product is added too rapidly or without stirring, and becomes concentrated at bottom of mixing vessel, excessive heat may be generated, resulting in DANGEROUS boiling and spattering and a possible IMMEDIATE AND VIOLENT ERUPTION of a highly caustic solution.
- Keep container tightly closed and properly labeled. Dike storage containers to contain 110% of tank volume.
- Under normal conditions this product can be stored satisfactorily in mild steel without an interior lining. &Aluminum is not recommended for storage and handling.
- Store above 60°F (16°C).

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Exposure Controls/Personal Protection

- Engineering Controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.
- Respiratory Protection:
 - Atmospheric levels should be maintained below the exposure guideline.
 - If respiratory irritation is experienced, use an approved air purifying respirator.
- Skin Protection:
 - Use protective clothing impervious to this material.
 - Selection of specific items such as faceshield, gloves, boots, apron, or full-bodysuit will depend on work area.
 - Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.
 - Contaminated leather items, such as shoes, belts and watchband, should be removed and destroyed.
- Eye/Face Protection:
 - Use chemical goggles.
 - Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator to protect face and eyes when there is any likelihood of splashes.
 - Eye wash fountain should be located in immediate work area.
- Exposure Guidelines:
 - Sodium hydroxide: OSHA PEL and ACGIH TLV are 2 mg/m³ Ceiling.
 - PELs are in accordance with those recommended by OSHA, as in the 1989 revision of PELs.

Physical and Chemical Properties

- Appearance: Clear, colorless viscous liquid
- Odor: No discernible odor
- Physical State: Liquid
- Boiling Point: Approx. 293°F, 145°C
- Freezing Point: Approx. 58°F, 14°C
- Vapor Density: Not applicable
- Solubility (H₂O): Complete (100%)
- Specific Gravity: @20°C (Dens.) 1.52 g/ml
- pH: 14

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Stability and Reactivity

- Chemical Stability: Stable under recommended storage conditions.
- Conditions to Avoid: Avoid temperature below 85°F
- Conditions to Incompatibility:
 - Heat is generated when mixed with water.
 - Spattering and boiling can occur.
 - Flammable hydrogen may be generated from contact with metals such as: aluminum, brass, tin, zinc.
 - Avoid contact with acids, halogenated organics, organic nitro compounds, glycols.
 - Caustic soda solution reacts readily with various reducing sugars (i.e. fructose, galactose, maltose, dry when solids) to produce carbon monoxide.
 - Precautions should be taken including monitoring the tank atmosphere for carbon monoxide to ensure safety of carbon monoxide to ensure safety of personnel.
- Hazardous Decomposition Products: It does not decompose.
- Hazardous Polymerization: will not occur.

Toxicological Information

- Skin: The dermal LD50 has not been determined.
- Ingestions: Single dose oral LD50 has not been determined.
- Mutagenicity: No relevant information found.

Ecotoxicity:

- Based on information for sodium hydroxide.
- material is slightly toxic to aquatic organisms on an acute basis (LC50 between 10 - 100mg/L in most sensitive species).
- May cause pH shifts outside the range of 5 - 10; this change may be toxic to aquatic organisms.

Disposal Considerations

- Waste Disposal:
 - DO NOT DUMP INTO ANY SWERS, ON THE GROUND OR INTO ANY BODY OF WATER.
 - All disposal methods must be in compliance with all Federal, State/Provincial and local law and regulations.
 - Regulations may vary in different locations.
 - Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.
- For Unused & Uncontaminated Product: The preferred options include sending to a licensed, permitted: recycler.

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Transport Information

U.S. Department of Transportation

- o proper shipping Name: Sodium Hydroxide, Solution
- o ID No.: UN 1824
- o Hazard Class: 8
- o Packing Group: II
- o Label: Corrosive

Disclaimer:

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אנשים שקיבלו את המידע חייבים להפעיל שיקול דעת העצמאית משלהם בקביעת התאמתו למטרה מסוימת.

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