IngredientDepot

# Material Safety Data Sheet

## Caustic Soda Micropearls, Anhydrous, Tech

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Caustic Soda Micropearls, Anhydrous, Tech
**Synonyms:** NaOH, Sodium Hydroxide or Lye
**Chemical Family:** None Known.
**Application:** Industrial applications, whenever a high-quality form of Sodium Hydroxide is of particular benefit.

**Distributed By:**
Ingredient Depot

**Prepared By:** Ingredient Depot's Compliance & Regulatory Affairs Dept.
**Preparation date of MSDS:** 9 April 2018
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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | Percentage (W/W) | LD50s and LC50s Route & Species: |
|---|---|---|
| Sodium Hydroxide<br>1310-73-2 | 100 | Oral LDLo (Rabbit) : 500mg/kg |
| Sodium Chloride<br>7647-14-5 | 0.5-1.5 | Oral LD50 (Rat) = 3 g/kg<br>Dermal LD50 (Rabbit) > 10 g/kg<br>Inhalation LC50 (Rat) > 42 g/m$^3$ 1 h |
| Sodium Carbonate<br>497-19-8 | 0.1-1 | Dermal LD50 (Mouse) = 2210 mg/kg<br>Oral LD50 (Rat) = 4090 mg/kg |

**Note:** No additional remark.

## 3. HAZARDS IDENTIFICATION

**Potential Acute Health Effects:**
**Eye Contact:** Causes severe eye burns. Small quantities can result in permanent damage and/or loss of vision.
**Skin Contact:** Causes severe burns. Corrosive action causes burns and frequently deep ulcerations with subsequent scarring. Prolonged contact destroys tissue. May cause dermatitis.
**Inhalation:** Corrosive to the respiratory passage. Inhalation of dusts or mists can cause damage to the upper respiratory tract and to the lung tissue depending on severity of exposure. Effects can range from mild irritation of mucous membranes, severe pneumonitis and destruction of lung tissue.

## 3. HAZARDS IDENTIFICATION

**Ingestion:** Severe burns and complete tissue perforation of mucous membranes of mouth, throat and stomach. Ingestion of product may result in death.

## 4. FIRST AID MEASURES

**Eye Contact:** Flush eyes with gently flowing water for 15-30 minutes, while holding the eyelid(s) open. Take care not to rinse the contaminated water into the unaffected eye or face. Seek immediate medical attention. Utmost speed is essential. Have an opthamologist make an evaluation of eye injury.
**Skin Contact:** Flush affected skin with gently flowing water for 15-30 minutes and remove contaminated clothing while rinsing. If wearing goggles, flush head and face thoroughly before removing goggles. Obtain medical attention immediately.
**Inhalation:** If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. In situations where administering oxygen is appropriate, first aiders must be trained in the safe use and handling of oxygen. It is preferable to administer oxygen under a doctor's supervision or advice. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Immediate medical assistance is required.
**Ingestion:** Gently wipe or rinse the inside of the mouth with water. Seek immediate medical attention. Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Administer artificial respiration if breathing has stopped. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately.
**Notes to Physician:** Treatment based on sound judgment of physician and individual reactions of patient.

## 5. FIRE FIGHTING MEASURES

**Flash Point:** None.
**Flash Point Method:** Not applicable.
**Autoignition Temperature:** Not available.
**Flammable Limits in Air (%):** Not Available.
**Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.
**Special Exposure Hazards:** Contact with some metals (particularly magnesium, aluminum and galvanized zinc) can rapidly generate hydrogen. Use water spray to cool containers. Do not get water inside container. Avoid direct contact of this product with water as this can cause a violent exothermic reaction. Reacts with metals to generate flammable hydrogen gas.
**Hazardous Decomposition/Combustion Materials (under fire conditions):** Oxides of carbon. Halogenated compounds. Metal oxides.
**Special Protective Equipment:** Fire fighters should wear full protective clothing, including self-contained breathing equipment.
**NFPA RATINGS FOR THIS PRODUCT ARE:** HEALTH 3, FLAMMABILITY 0, INSTABILITY 1
**HMIS RATINGS FOR THIS PRODUCT ARE:** HEALTH 3, FLAMMABILITY 0, REACTIVITY 2

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures:** Wear appropriate protective equipment.
**Environmental Precautionary Measures:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Consult local authorities.
**Procedure for Clean Up:** This material is alkaline and may raise the pH of surface waters with low buffering capacity. Scoop up or vacuum up and place in an appropriate closed container. Avoid raising dust. Isolate spill and stop leak where safe. If the material has been mixed with water or any other liquid, then dike area to contain spill. Dilute spill with large amounts of water and neutralize with dilute acid. Use vacuum truck to pick up neutralized material for proper disposal. Flush area with water to remove trace residue.

## 7. HANDLING AND STORAGE

**Handling:** For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. CAUTION - Do not add water to caustic soda beads. The proper way is to add the beads slowly to the surface of cold water and agitate while they dissolve to avoid violent eruption or explosive reaction. If the water is not agitated, adding caustic soda beads rapidly is dangerous. The danger is greater if the water is warm instead of cold. The high heat of solution of dry caustic soda may cause a sudden violent eruption of caustic solution. Also, a layer of concentrated solution may form and suddenly mix with a layer of less concentrated solution. In this case, the high heat of solution may create steam and cause the solution to erupt. Caustic soda reacts with magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze, generating hydrogen which is explosive. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Do not enter a storage tank or container (truck or rail) that has contained this product, even if it appears empty.

**Storage:** Store in a dry, well ventilated area, separate from acids, peroxides, metals, easily ignitable materials and other incompatibles. Protect against moisture, water and physical damage. Keep containers tightly closed. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen can be generated. Store in accordance with good industrial practices.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:**

Provide local exhaust to meet TLV requirements if making solutions or grinding up and mist or dust is generated. Ventilation facilities should be corrosion resistant. Localized ventilation should be used to control dust levels.

**Respiratory Protection:** If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator. In case of spill or leak resulting in unknown concentration, use a NIOSH approved supplied air respirator.

**Gloves:**

Appropriate chemical resistant gloves should be worn. Rubber gloves. Neoprene gloves. Nitrile gloves.

**Skin Protection:** Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance. PVC clothing. Rubber apron. Rubber boots.

**Eyes:** Close fitting chemical safety goggles with faceshield.

**Other Personal Protection Data:** Ensure that eyewash stations and safety showers are proximal to the work-station location.

| Ingredients | Exposure Limit - ACGIH | Exposure Limit - OSHA | Immediately Dangerous to Life or Health - IDLH |
|---|---|---|---|
| Sodium Hydroxide | 2 mg/m$^3$ Ceiling | 2 mg/m$^3$ Ceiling | 10 mg/m$^3$ |
| Sodium Chloride | Not available. | Not available. | Not Available. |
| Sodium Carbonate | Not available. | Not available. | Not Available. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid
**Colour:** White
**Odour:** Odourless
**pH** 12
**Specific Gravity:** 2.13 @ 20°C
**Boiling Point:** 1390°C /2534°F
**Freezing/Melting Point:** 310 - 320°C/ 590 - 608°F
**Vapour Pressure:** Not Available.
**Vapour Density:** Not Available.
**% Volatile by Volume:** 0 (w/w)
**Evaporation Rate:** Not Available.
**Solubility:** Completely soluble.
**VOCs:** Not Available.
**Viscosity:** Not Available.
**Molecular Weight:** 40
**Other:** Not Available.

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.
**Hazardous Polymerization:** Will not occur.
**Conditions to Avoid:** Addition of water results in large temperature increase. Avoid contact with incompatible materials.
**Materials to Avoid:** Contact with air. Contact with water. Contact with acids. Aldehydes. Product is corrosive to tin, aluminum, zinc and alloys containing these metals and will react with these metals in powder from, avoid contact with leather, wool, acids, organic halogen compounds. Hazardous carbon monoxide gas can form upon contact with reducing sugars, food and beverage products in enclosed spaces and can cause death.
**Hazardous Decomposition Products:** No decomposition expected under normal storage conditions.
**Additional Information:**

Contact with water may generate sufficient heat to ignite combustible materials.

## 11. TOXICOLOGICAL INFORMATION

**Principle Routes of Exposure**

**Ingestion:** Severe burns and complete tissue perforation of mucous membranes of mouth, throat and stomach. Ingestion of product may result in death.
**Skin Contact:** Causes severe burns. Corrosive action causes burns and frequently deep ulcerations with subsequent scarring. Prolonged contact destroys tissue. May cause dermatitis.
**Inhalation:** Corrosive to the respiratory passage. Inhalation of dusts or mists can cause damage to the upper respiratory tract and to the lung tissue depending on severity of exposure. Effects can range from mild irritation of mucous membranes, severe pneumonitis and destruction of lung tissue.
**Eye Contact:** Causes severe eye burns. Small quantities can result in permanent damage and/or loss of vision.

**Additional Information:** No additional information available.

**Acute Test of Product:**
**Acute Oral LD50:** Not Available.
**Acute Dermal LD50:** Not Available.
**Acute Inhalation LC50:** Not Available.

**Carcinogenicity:**

| Ingredients | IARC - Carcinogens | ACGIH - Carcinogens |
|---|---|---|
| Sodium Hydroxide | Not listed. | Not listed. |
| Sodium Chloride | Not listed. | Not listed. |
| Sodium Carbonate | Not listed. | Not listed. |

**Carcinogenicity Comment:** No additional information available.

**Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity:** Not Available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Information:**

| Ingredients | Ecotoxicity - Fish Species Data | Acute Crustaceans Toxicity: | Ecotoxicity - Freshwater Algae Data |
|---|---|---|---|
| Sodium Hydroxide | LC50 (Rainbow Trout) 1149 mg/l<br>LC50 (Chinook Salmon) 152 mg/l | Not Available. | Not Available. |
| Sodium Chloride | LC50 96 h (Lepomis macrochirus) 5560-6080 mg/L flow-through<br>LC50 96 h (Lepomis macrochirus) 12946 mg/L static<br>LC50 96 h (Pimephales promelas) 6020-7070 mg/L static<br>LC50 96 h (Pimephales promelas) 7050 mg/L semi-static<br>LC50 96 h (Pimephales promelas) 6420-6700 mg/L static<br>LC50 96 h (Oncorhynchus mykiss) 4747-7824 mg/L flow-through | Not Available. | Not Available. |
| Sodium Carbonate | LC50 96 h (Lepomis macrochirus) 300 mg/L static<br>LC50 96 h (Pimephales promelas) <310-1220 mg/L static | Not Available. | EC50 (Nitzschia) 242 mg/L<br>LC50 (Daphnia Magna) 347 mg/L (24hr)<br>LC50 (Daphnia Magna) 565 mg/L (96hr) |

**Other Information:** This material has produced slight to moderate toxicity in laboratory tests with aquatic organisms. This material is strongly alkaline. If released to surface water, this compound will cause the pH to rise dependent on the buffering capacity of the waterbody. Aquatic organisms become increasingly stressed as pH exceeds 9, with many aquatic species being intolerant of pH in excess of 10. This compound does not bioaccumulate in organisms. Due caution should be exercised to prevent the accidental release of this material to the environment.

## 13. DISPOSAL CONSIDERATIONS

**Disposal of Waste Method:** Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.
**Contaminated Packaging:** Empty containers should be recycled or disposed of through an approved waste management facility.

## 14. TRANSPORT INFORMATION

**DOT (U.S.):**
**DOT Shipping Name:** SODIUM HYDROXIDE, SOLID
**DOT Hazardous Class** 8
**DOT UN Number:** UN1823
**DOT Packing Group:** II
**DOT Reportable Quantity (lbs):** 1000
**Note:** No additional remark.
**Marine Pollutant:** No.

**TDG (Canada):**
**TDG Shipping Name:** SODIUM HYDROXIDE, SOLID

## 14. TRANSPORT INFORMATION

**Hazard Class:** 8
**UN Number:** UN1823
**Packing Group:** II
**Note:** No additional remark.
**Marine Pollutant:** No.

## 15. REGULATORY INFORMATION

**U.S. TSCA Inventory Status:** All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

**Canadian DSL Inventory Status:** All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

**Note:** Not available.

**U.S. Regulatory Rules**

| Ingredients | CERCLA/SARA - Section 302: | SARA (311, 312) Hazard Class: | CERCLA/SARA - Section 313: |
|---|---|---|---|
| Sodium Hydroxide | Not Listed. | Listed | Not Listed. |
| Sodium Chloride | Not Listed. | Not Listed. | Not Listed. |
| Sodium Carbonate | Not Listed. | Not Listed. | Not Listed. |

**California Proposition 65:** Not Listed.
**MA Right to Know List:** Listed.
**New Jersey Right-to-Know List:** Listed.
**Pennsylvania Right to Know List:** Listed.

**WHMIS Hazardous Class:**
E CORROSIVE MATERIAL

## 16. OTHER INFORMATION

**Additional Information:** This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

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*****END OF MSDS*****