

# MATERIAL SAFETY DATA SHEET

JUL 29 2010

## CAUSTIC SODA BEADS

MSDS ID: AL0102

Revised: 03-18-2009

Replaces: 01-07-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** CAUSTIC SODA BEADS  
**MSDS ID:** AL0102  
**Synonyms:** Sodium Hydroxide; Soda Lye  
**CAS Number:** 1310-73-2  
**Chemical Family:** Alkali  
**Formula:** NaOH

**DISTRIBUTED BY:**  
Hydrite Chemical Co.  
300 N. Patrick Blvd.  
Brookfield, WI 53008-0948  
(262) 792-1450

**EMERGENCY RESPONSE NUMBERS:**  
**24 Hour Emergency #:** (414) 277-1311  
**CHEMTREC Emergency #:** (800) 424-9300

**MANUFACTURED BY:** AGC; PPG; Tianjin Yuanlong; TRInternational, Inc.

### 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** DANGER! CORROSIVE. Causes severe burns to eyes, skin, and respiratory tract. Not flammable, but reacts with most metals to form explosive/flammable hydrogen gas. Harmful or fatal if swallowed. May be harmful or fatal if inhaled. DANGER! May react violently with water.

**Physical State:** Beads.  
**Color:** White to off-white.  
**Odor:** No odor.

#### POTENTIAL HEALTH EFFECTS

**Routes Of Exposure:** Eyes. Skin. Inhalation. Ingestion.

**Target Organs:** Eyes. Skin. Respiratory System.

**Eye Contact:** CORROSIVE-Causes severe irritation and burns. Small amounts may cause: permanent eye damage. corneal damage. blindness.

**Skin Contact:** CORROSIVE-Causes severe irritation and burns. Corrosive action causes burns and frequently deep ulceration with ultimate scarring. Prolonged contact may cause: tissue destruction. Dust or mist from solutions can cause irritant dermatitis. Repeated exposure may cause: dermatitis (inflammation of the skin).

**Skin Absorption:** No absorption hazard expected under normal use.

**Inhalation:** CORROSIVE-Causes severe irritation and burns. Dusts or mists may irritate: nose. mouth. throat. respiratory tract. Dusts or mists may cause damage to the: upper respiratory tract. lungs. May cause: coughing. chest pain. difficulty breathing. pulmonary edema. Effects can range from mild irritation of mucous membranes, severe pneumonitis and destruction of lung tissue.

**Ingestion:** CORROSIVE-Causes severe irritation and burns. Ingestion can cause very serious damage to the mouth, esophagus, stomach, and other tissues with which contact is made, and may be fatal. Ingestion can

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cause severe burns and complete tissue perforation of the mucous membranes of the mouth, throat and stomach. May cause: nausea. vomiting. diarrhea. severe pain. shock.

**Medical Conditions Aggravated By Exposure To Product:** Skin disorders. Lung disorders. Cardiovascular disorders. Eye disorders. Respiratory system disorders.

**Other:** None known.

**Cancer Information:** This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

**Potential Environmental Effects:** See Section 12.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS Number</u>	<u>OSHA Hazard</u>	<u>% by Wt.</u>
Sodium Hydroxide	1310-73-2	YES	96 - 100 %
Sodium Carbonate	497-19-8	YES	0 - 1.6 %

### 4. FIRST-AID MEASURES

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Washing eyes within several seconds is essential to achieve maximum effectiveness.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. If skin feels slippery, caustic may still be present in sufficient quantities to cause rash or burn. Continue washing skin until slick feeling is gone. Do not apply oils or ointments unless ordered by the physician. Discard footwear which cannot be decontaminated. Discard contaminated leather articles such as shoes and belt.

**Inhalation:** Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

**Ingestion:** If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. If vomiting occurs spontaneously, keep airway clear and give more water.

**Note to Physicians:** The absence of visible signs or symptoms of burns does not reliably exclude the presence of actual tissue damage. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Not combustible. For fires in area use appropriate media. For example: Water spray. Dry chemical. Carbon dioxide. Foam.

# MATERIAL SAFETY DATA SHEET

## CAUSTIC SODA BEADS

MSDS ID: AL0102

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**Fire Fighting Methods:** Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-Approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers, but avoid getting water into containers. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution.

**Fire And Explosion Hazards:** Product may react with some metals (ex.: Aluminum, Zinc, Tin, etc.) to release flammable hydrogen gas.

**Hazardous Combustion Products:** None known.

## 6. ACCIDENTAL RELEASE MEASURES

**Spill Clean-Up Procedures:** CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Contain spill, place into drums for proper disposal. Neutralize remaining residue with dilute Hydrochloric Acid solution and dispose of properly. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. CAUTION: This product may react violently with acids and water.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. CORROSIVE MATERIAL. Avoid dust or mist formation. Add product very slowly while stirring constantly. If product is added too rapidly or without stirring and becomes concentrated at the bottom of the mixing vessel, excessive heat may be generated resulting in dangerous boiling and spattering and possible immediate violent irruption of highly caustic solution.

**Storage:** CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. HYGROSCOPIC MATERIAL. Avoid contact with moisture. Store in closed containers. Highly corrosive to most metals with evolution of hydrogen gas. Deadly carbon monoxide gas can form in enclosed or poorly ventilated areas or tanks when alkaline products contact food, beverage, or dairy products. Do not enter such areas until they have been well ventilated and carbon monoxide and oxygen levels have been determined to be within OSHA acceptable limits. If carbon monoxide and oxygen levels cannot be measured, wear NIOSH-approved, self-contained breathing apparatus.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines:

<u>Component</u>	<u>OSHA PEL</u>	<u>OSHA STEL/C</u>	<u>ACGIH TWA</u>	<u>ACGIH STEL/C</u>
Sodium Hydroxide	2 mg/m <sup>3</sup>	Not Estab.	Not Estab.	C 2 mg/m <sup>3</sup>
Sodium Carbonate	Not Estab.	C 2 mg/m <sup>3</sup> +	Not Estab.	Not Estab.

**Note:** + Vacated 1989 OSHA PEL(s). C = Denotes Ceiling Limit.

# MATERIAL SAFETY DATA SHEET

## CAUSTIC SODA BEADS

MSDS ID: AL0102

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**Engineering Controls:** General room ventilation is required. To keep exposure below established limits, local exhaust may be necessary. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly. NOTE: Where carbon monoxide may be generated, special ventilation may be required.

**Eye/Face Protection:** Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.

**Skin Protection:** Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Natural rubber. Neoprene. Nitrile.

**Respiratory Protection:** Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved respirator for dusts and mists. NIOSH-Approved Supplied Air Respirator (SAR). NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

**Other Protective Equipment:** Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing.

**General Hygiene Conditions:** Wash with soap and water before meal times and at the end of each work shift. Food, beverages, and tobacco products should not be carried, stored or consumed where this material is in use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Beads.

**Color:** White to off-white.

**Odor:** No odor.

**Boiling Point (deg. F):** 2534

**Freezing Point (deg. F):** N.D.

**Melting Point (deg. F):** 590 - 608

**Vapor Pressure (mm Hg):** 0 @ Room Temperature

**Vapor Density (air=1):** N.D.

**Solubility in Water:** Complete

**pH:** 14

**Specific Gravity:** ~2.13

**% Volatile (wt%):** N.D.

**Evaporation Rate (nBuAc = 1):** N.D.

**VOC (wt%):** 0

**VOC (lbs/gal):** 0

**Viscosity:** N.D.

**Flash Point:** N.A.

**Flash Point Method:** N.A.

**Lower Explosion Limit:** N.A.

**Upper Explosion Limit:** N.A.

**Autoignition Temperature:** No Data

## 10. STABILITY AND REACTIVITY

# MATERIAL SAFETY DATA SHEET

## CAUSTIC SODA BEADS

MSDS ID: AL0102

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Stability: Stable under normal conditions.

**Conditions To Avoid:** Avoid contact with water or moisture. Keep away from incompatibles.

**Incompatible Materials:** Acids. Metals such as aluminum, zinc, tin, etc. Magnesium. Chromium. Brass. Bronze. Copper. Lead. Other alkali sensitive metals or alloys. Organic materials. Organic nitro compounds. Chlorinated hydrocarbons. Fluorinated hydrocarbons. Acetaldehyde. Chlorine trifluoride. Hydroquinone. Maleic anhydride. Tetrahydrofuran. Acrolein. Phosphorous. Trichloroethylene. Leather. Wool. Phosphorous pentoxide. Halogenated compounds. Glycols. Explosives. Acrylonitrile. 1,2-Dichloroethylene. Tetrachloroethane. Organic peroxides. Sodium tetrahydroborate. Food sugars.

**Hazardous Decomposition Products:** Hydrogen gas. Carbon monoxide. Flammable dichloroacetylene. Phosphine. Thermal decomposition may release: Sodium oxides.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur under normal conditions. Sodium hydroxide can induce hazardous polymerization of acetaldehyde, acrolein, and acrylonitrile. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Contact with acid or incompatible materials may cause a violent reaction with evolution of heat. May react with certain metals to produce flammable hydrogen gas. Contact with acids, halogenated organics, organic nitro compounds, glycols, or sodium tetrahydroborate may produce flammable hydrogen gas. Contact with 1,2-dichloroethylene, trichloroethylene, tetrachloroethane, or phosphorous can form spontaneously flammable chemicals. Reactions with various food sugars may form carbon monoxide.

## 11. TOXICOLOGICAL INFORMATION

LD50 Oral: Rabbit (LDLo): 500 mg/kg

LD50 Skin: Rabbit: 1350 mg/kg

LC50 Inhalation: No Data

For detailed toxicological information on this product, contact the address in Section 1 of this MSDS.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Information:** Extensive data, call for information.

**Chemical Fate Information:** Extensive data, call for information.

## 13. DISPOSAL CONSIDERATIONS

**Hazardous Waste Number:** N.A.

**Disposal Method:** Dispose of in accordance with all local, state and federal regulations. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location. Clean-up material may be a RCRA Hazardous Waste on disposal.

## 14. TRANSPORTATION INFORMATION

**DOT (Department of Transportation):**

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Proper Shipping Name: SODIUM HYDROXIDE, SOLID  
Hazard Class: 8  
Identification Number: UN1823  
Packing Group: II  
Label Required: CORROSIVE  
Reportable Quantity (RQ): 1000# (Sodium Hydroxide).

## 15. REGULATORY INFORMATION

### U.S. FEDERAL REGULATIONS

**TSCA Inventory Status:** All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

**SARA Title III Section 311/312 Category:**

Immediate (Acute) Health Hazard: Yes

Delayed (Chronic) Health Hazard: No

Fire Hazard: No

Sudden Release Of Pressure Hazard: No

Reactive Hazard: Yes

**SARA Section 302/304/313/HAP:**

<u>Component</u>	<u>CERCLA RQ</u>	<u>SARA RQ</u>	<u>SARA TPQ</u>	<u>SARA 313</u>	<u>U.S. HAP</u>
Sodium Hydroxide	1000	N.A.	N.A.	NO	NO
Sodium Carbonate	N.A.	N.A.	N.A.	NO	NO

### U.S. STATE REGULATIONS

**California - The following components are listed under Proposition 65:**

This product contains a chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

**Wisconsin - The following components are listed as a Wisconsin HAP:**

Sodium Hydroxide.

## 16. ADDITIONAL INFORMATION

### Hydrite Rating System

Health: 3

Flammability: 0

Reactivity: 1

\* = Chronic Health Hazard

### NFPA Rating System

Health: 3

Flammability: 0

Reactivity: 1

Special Hazard: None

### MSDS Abbreviations

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**N.A. = Not Applicable**

**N.D. = Not Determined**

**HAP = Hazardous Air Pollutant**

**VOC = Volatile Organic Compound**

**C = Ceiling Limit**

**N.E./Not Estab. = Not Established**

**MSDS Prepared by: LW**

**Reason for Revision: Change(s) made in Section 1.**

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The data in this Material Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which HYDRITE CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.