

# MATERIAL SAFETY DATA SHEET

## Caustic Soda Beads

### Section 01 - Chemical And Product And Company Information

**Product Identifier** ..... Caustic soda beads

**Product Use** ..... Acid neutralization, petroleum refining, manufacture of paper cellulose, regeneration of ion exchange resins, miscellaneous chemical uses.

**Supplier Name** ..... Panther Industries Inc  
108 Internal Rd  
Davidson, SK  
S0G-1A0

**Prepared By** ..... Panther Tech Department  
306-567-2814

**Preparation Date** ..... Oct 14 2007

**24-Hour Emergency Phone** ..... 306-664-2522



### Section 02 - Composition / Information on Ingredients

**Hazardous Ingredients** ..... Sodium Hydroxide 95-99%

**CAS Number** ..... Sodium Hydroxide 1310-73-2

**Synonym (s)** ..... Caustic soda; sodium hydrate; lye; Pels®, sodium hydroxide, anhydrous sodium hydroxide

### Section 03 - Hazard Identification

**Inhalation** ..... Dusts or mists cause severe irritation of respiratory tract which may have the following effects: mild irritation of mucous membranes, severe pneumonitis, and destruction of lung tissue. May cause pulmonary edema.

- Skin Contact / Absorption**..... Contact causes severe burning and frequently deep ulcerations result with subsequent scarring. Prolonged contact destroys tissue. Contact with dust or mist can cause multiple burns with temporary loss of hair at burn site. Dust or mist can cause irritant dermatitis. Solutions of up to 4% in water may not cause irritation and burning for several hours, while 25 to 50% solutions can cause these effects in less than 3 minutes.
- Eye Contact**..... Extremely corrosive to the eyes. Contact with small quantities can result in permanent blindness. Penetrate deeply causing severe burns, corneal scarring, and clouding. In severe cases, glaucoma, cataracts and permanent blindness may occur.
- Ingestion**..... Causes very serious damage to the mucous membranes and or other tissues in the digestive tract and may be fatal. Burning of the mouth, throat and esophagus, vomiting, diarrhea, edema (swelling) of larynx and subsequent suffocation. Perforation of gastrointestinal tract can occur.
- Exposure Limits**..... Ceiling Exposure Limit (TLV-C): 2 mg/m<sub>3</sub> over 8 hours (ACGIH)

**Section 04 - First Aid Measures**

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
- Eye Contact**..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention
- Ingestion**..... Have victim drink water to dilute material. Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomitus and give more water to drink. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.
- Additional Information**..... Doctors should treat symptomatically.

**Section 05 - Fire Fighting**

- Conditions of Flammability**..... Non-flammable
- Means of Extinction**..... Use an extinguisher appropriate to the material burning, Water should not come in contact with sodium hydroxide. At high temperatures, fuming can occur, giving off a strong gas.

Flash Point..... Not applicable

Auto-ignition Temperature..... Not applicable

Upper Flammable Limit ..... Not applicable

Lower Flammable Limit..... Not applicable

Hazardous Combustible Products... Not available

Special Fire Fighting Procedures..... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Explosion Hazards..... Contact with some metals (particularly magnesium, aluminum, zinc, and galvanized steel) can rapidly generate hydrogen gas which is explosive.

**Section 06 - Accidental Release Measures**

Leak / Spill..... Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers.

Deactivating Materials..... Neutralize with dilute inorganic acid.

**Section 07 - Handling and Storage**

Handling Procedures..... 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.

Storage Requirements..... Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials (especially acids).

**Section 08 - Personal Protection and Exposure Controls**

**Protective Equipment**

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

- Respiratory**..... Below the regulated limit when there are no dusty or misty conditions, no protection is required. Between 2 and 20 mg/m<sup>3</sup>, a NIOSH/MSHA approved respirator equipped with dust, mist, fume cartridges is recommended. Above this level or at unknown levels, a self-contained breathing apparatus is required.
- Gloves**..... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.
- Clothing**..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.
- Footwear**..... Impervious boots of chemically resistant material should be worn at all times

**Engineering Controls**

- Ventilation Requirements**..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure, and control of process conditions. Supply sufficient replacement air to make up for air removed by exhaust systems.
- Other**..... Emergency shower and eyewash should be in close proximity.

**Section 09 - Physical and Chemical Properties**

- Physical State**..... Solid
- Odor and Appearance**..... Odourless white beads
- Odor Threshold**..... Not applicable
- Specific Gravity (Water=1)**..... 2.13
- Vapor Pressure (mm Hg, 20C)**..... Not available
- Vapor Density (Air=1)**..... Not available
- Evaporation Rate**..... Not available
- Boiling Point**..... 1390°C
- Freeze/Melting Point**..... 310-320°C

pH..... >> 14

**Water/Oil Distribution Coefficient**.... Not available

**Bulk Density**..... 70lb/ft<sup>3</sup> (loose)

**% Volatiles by Volume**..... Not available

**Solubility in Water**..... 0.42 kg/L at 0°C  
3.47 kg/L at 100°C

**Molecular Formula**..... NaOH

**Molecular Weight**..... 40

### Section 10 - Stability and Reactivity

**Stability**..... Stable under normal conditions

**Incompatibility**..... Strong acids, water, magnesium, aluminum, zinc, galvanized steel, tin, chromium, brass, bronze, and organic materials.

**Hazardous Products of Decomposition**.. Reacts with water or strong acids to generate large quantities of heat. Reacts with metals to generate explosive hydrogen gas. Reacts with organic compounds (especially food sugars) to liberate toxic carbon monoxide gas.

**Polymerization**..... Will not occur

### Section 11 - Toxicological Information

**Irritancy**..... Corrosive

**Sensitization**..... Not available

**Chronic/Acute Effects**..... There have been no documented effects due to long term exposure to sodium hydroxide. Emphasis should be placed on the prevention of all contact with this product.

**Synergistic Materials**..... Not available

**Animal Toxicity Data**..... LD<sub>50</sub>(rabbit,oral)= 500mg/kg

**Carcinogenicity**..... Not considered to be carcinogenic by NTP, IARC, and OSHA and ACGIH.

Reproductive Toxicity..... Not available

Teratogenicity..... Not available

Mutagenicity..... Not available

**Section 12 - Ecological Information**

Fish Toxicity..... TLm(96 hour,bluegill)= 240µg/L

Biodegradability..... Not available

Environmental Effects..... Highly toxic to aquatic life.

**Section 13 - Disposal Consideration**

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

**Section 14 - Transportation Information**

**TDG Classification**

Class..... 8

Group..... II

PIN Number..... UN 1823

Other..... Secure containers (full and/or empty) with suitable hold down devises during shipment.

**Section 15 - Regulatory Information**

WHMIS Classification.....E

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

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**Section 16 - Other Information**

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**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.**