Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Explosion Data
- Sensitivity to Mechanical Impact: Contact with aluminum, tin and zinc liberates hydrogen gas. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts.

Autoignition Temp: N/A

Extinguishing Media
- Suitable: Use extinguishing media appropriate to surrounding fire conditions.
- Unsuitable: Do not use water.

Firefighting
- Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area.

Procedure(s) of Personal Protection(s)
- Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
- User Exposure: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid prolonged or repeated exposure.

Storage
- Suitable: Keep tightly closed. Store in a cool dry place.
- Incompatible Materials: Do not allow contact with water.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment
- Respiratory: Government approved respirator.
- Hand: Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Exposure Limits

<table>
<thead>
<tr>
<th>Country</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>NIOSH</td>
<td>0.5 mg/M3</td>
</tr>
<tr>
<td>USA</td>
<td>OSHA</td>
<td>2 mg/M3</td>
</tr>
<tr>
<td>Poland</td>
<td>NIOSH</td>
<td>1 mg/M3</td>
</tr>
<tr>
<td>USA</td>
<td>ACGIH</td>
<td>2 mg/m3</td>
</tr>
<tr>
<td>Poland</td>
<td>NIOSH</td>
<td></td>
</tr>
</tbody>
</table>

Exposure Limits, RTECS

<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>ACGIH</td>
<td>Ceiling concentration</td>
<td>2 mg/M3</td>
</tr>
<tr>
<td>USA</td>
<td>MSHA Standard</td>
<td>Ceiling concentration</td>
<td>2 MLC/M3</td>
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<tr>
<td>USA</td>
<td>OSHA</td>
<td>PEL</td>
<td>BH TWA 2</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>MG/M3</td>
</tr>
<tr>
<td>New Zealand</td>
<td>OEL</td>
<td>Ceiling concentration</td>
<td>2 mg/M3/15M</td>
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<tr>
<td>USA</td>
<td>NIOSH</td>
<td></td>
<td></td>
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</table>

Section 9 - Physical/Chemical Properties

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<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Color</th>
<th>Form</th>
</tr>
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<tbody>
<tr>
<td>Solid</td>
<td>White</td>
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<td>Pellets</td>
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</table>

Molecular Weight: 40 AMU

<table>
<thead>
<tr>
<th>Molecular Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>pH</td>
<td>13 - 14</td>
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<tr>
<td>BPH/MP Range</td>
<td>1,390 °C</td>
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<tr>
<td>MP/MP Range</td>
<td>318 °C</td>
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<tr>
<td>Freezing Point</td>
<td>N/A</td>
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<tr>
<td>Vapor Pressure</td>
<td>&lt; 18 mmHg</td>
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<tr>
<td>Vapor Pressure</td>
<td>20 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>&gt; 1 g/l</td>
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<tr>
<td>Saturated Vapor Conc.</td>
<td>N/A</td>
</tr>
<tr>
<td>SG/Density</td>
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<tr>
<td>Bulk Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>VOC Content</td>
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</tr>
<tr>
<td>Water Content</td>
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</tr>
<tr>
<td>Solvent Content</td>
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<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Partition Coefficient</td>
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<tr>
<td>Decomposition Temp.</td>
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</tr>
<tr>
<td>Flash Point °F</td>
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</tr>
<tr>
<td>Flash Point °C</td>
<td>N/A</td>
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<tr>
<td>Explosion Limits</td>
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<tr>
<td>Flammability</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temp.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 10 - Stability and Reactivity

Stability
Stable.

Conditions of Instability
Absorbs carbon dioxide from air. Never add water to this material, always add this material to water.

Conditions to Avoid
Do not allow water to enter container because of violent reaction.

Materials to Avoid
Strong oxidizing agents, Strong acids, Organic materials.

Hazardous Decomposition Products
Hazardous Decomposition Products
Sodium/sodium oxides.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact: Causes burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes burns.
Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

Signs and Symptoms of Exposure
Inhalation may result in irritation, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: WB4900000

Toxicity Data
Intra-peritoneal - Mouse: 40 MG/KG (LD50)

Irritation Data
Skin - Rabbit: 500 mg 24 HR
   Remarks: Severe irritation effect
Eye - Rabbit: 0.50 mg 24 HR
   Remarks: Severe irritation effect
Eye - Monkey: 1 % 24H
   Remarks: Severe irritation effect
Skin - Rabbit: 500 mg 24H
   Remarks: Severe irritation effect
Eyes - Rabbit: 0.4 mg
Remarks: Mild irritation effect
Eyes - Rabbit: 1% Remarks: Severe irritation effect
Eyes - Rabbit: 0.05 mg 24H Remarks: Severe irritation effect
Eyes - Rabbit: 1 mg 24H Remarks: Severe irritation effect
Eyes - Rabbit: 1 mg 308 Remarks: Rinsed

<table>
<thead>
<tr>
<th>Species</th>
<th>Dose</th>
<th>Cell Type</th>
<th>Mutation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamster</td>
<td>10 MMOL/L</td>
<td>lung</td>
<td>Cytogenetic analysis</td>
</tr>
<tr>
<td>Hamster</td>
<td>16 MMOL/L</td>
<td>ovary</td>
<td>Cytogenetic analysis</td>
</tr>
</tbody>
</table>

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Sodium hydroxide, solid
UN No: 1823
Class: 8
Packing Group: Packing Group II
Hazard Label: Corrosive
PIR: Not PIR

IATA
Proper Shipping Name: Sodium hydroxide, solid
IATA UN Number: 1823
Hazard Class: 8
Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification
Symbol of Danger: C
Indication of Danger Corrosive.
Risk Statements R: 35
Causes severe burns.
Safety Statements S: 26 37/39 45
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text
Indication of Danger Corrosive.
Risk Statements Causes severe burns.

Safety Statements
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements
Exothermic in contact with water

United States Regulatory Information
SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSC: Yes
NGBL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other use.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.