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

Section 5 - Fire Fighting Measures

Explosion Data
Dust Potential
This material, like most materials in powder form, is capable of creating a dust explosion.

Flash Point: 217.4 °F  103 °C

Explosion Limits:
Lower: 1.4 %
Upper: 7.1 %

Autoignition Temp: 477 °C

Extinguishing Media
Suitable
Carbon dioxide.

Unsuitable
Do not use dry chemical powder extinguisher on this material.

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 clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store in a cool dry place.

Special Requirements
May decompose on exposure to moist air or water.

Section 8 - Exposure Controls / PPE

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

Personal Protective Equipment
Respiratory
NIOSH/MSHA-approved respirator.

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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, RTECS

<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>ACGIH</td>
<td>TWA</td>
<td>1.0 MG/M3 (0.25 PPM)</td>
<td></td>
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<tr>
<td>USA</td>
<td>MSHA Standard-air</td>
<td>TWA</td>
<td>0.25 PPM (1 MG/M3)</td>
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<tr>
<td>USA</td>
<td>OSHA</td>
<td>PEL</td>
<td>8H-TWA 0.25 PPM (1 MG/M3)</td>
<td>check ACGIH TLV</td>
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<tr>
<td>New Zealand</td>
<td>OEL</td>
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<tr>
<td>USA</td>
<td>NIOSH</td>
<td>TWA</td>
<td>0.25 PPM</td>
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</table>

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
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</thead>
<tbody>
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<td>Molecular Weight</td>
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<tr>
<td>pH</td>
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<tr>
<td>BP/VP Range</td>
<td>202 °C</td>
<td>760 mmHg</td>
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<tr>
<td>MP/MP Range</td>
<td>52 °C</td>
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<tr>
<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<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>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<td></td>
</tr>
<tr>
<td>Water Content</td>
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<tr>
<td>Solvent Content</td>
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<tr>
<td>Evaporation Rate</td>
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<td>Viscosity</td>
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<tr>
<td>Partition Coefficient</td>
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<tr>
<td>Decomposition Temp.</td>
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<tr>
<td>Flash Point *F</td>
<td>217.4 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point °C</td>
<td>103 °C</td>
<td></td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>Lower: 1.4 %</td>
<td></td>
</tr>
<tr>
<td>Autogignition Temp.</td>
<td>477 °C</td>
<td></td>
</tr>
</tbody>
</table>

Section 10 - Stability and Reactivity

Stability
Conditions of Instability
May decompose on exposure to moist air or water
Materials to Avoid
Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents, Alkali metals, Amines.

Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

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
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

Sensitization
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Signs and Symptoms of Exposure
Inhalation may result in spasm, 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.

Conditions Aggravated by Exposure
Causes sneezing. Do not inhale.

RTECS Number: ON3675000

Toxicity Data
Oral - Rat: 400 mg/kg (LD50)
Intraperitoneal - Rat: 97 Mkg/Kg (LD50)
Aural - Mouse: 455 mg/kg (LD50)
Oral - Rabbit: 675 mg/kg (LD50)
Skin - Rabbits: 2,620 mg/kg (LD50)
Aural - Guinea pig: 300 mg/kg (LD50)
Skin - Guinea pig: > 20,000 mg/kg (LD50)

Irritation Data
Eyes - Rabbit: 1%
Remarks: Severe irritation effect

Chronic Exposure Carcinogen
Rat - Subcutaneous: 1220 MG/KG, 6/1W 1
Result: Tumorigenic; Equivocal tumorigenic agent by RTECS criteria. Tumorigenic; Tumors at site or application.

Chronic Exposure - Mutagen
Species: Mouse
Date: 230 MG/L
Cell Type: Lung
Mutation Test: Cytogenetic analysis

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Chronic Exposure - Reproductive Hazard

Species: Rat
Date: 4060 MG/KG
Route of Application: Oral
Exposure Time: (MULTIGENERATION)

Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Section 12 - Ecological Information

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Maleic anhydride
UN No.: 2215
Class: 8
Packing Group: Packing Group III
P.I.H.: Not PIH

IATA
Proper Shipping Name: Maleic anhydride
IATA Number: 2215
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

US Classification and Label Text
Indication of Danger: Corrosive.
Risk Statements: Harmful if swallowed. Causes burns. May cause sensitization by inhalation and skin contact.
Safety Statements: Do not breathe dust. 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 this label where possible).

United States Regulatory Information
SARA Listed: Yes
Demineral: 1%
Notes: This product is subject to SARA section 313 reporting requirements.

Section 16 - Other Information

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. 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 2001 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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