LEAD DIOXIDE

MATERIAL SAFETY DATA SHEET

INTEGRA Chemical Company
1216 6th Ave N
Kent WA 98032
Phone: 253-479-7000
24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)

Product Identification

Product Name: LEAD DIOXIDE
Synonyms: Lead peroxide
Chemical Formula: PbO2
Formula Weight: 239.20
Chemical Family: Integra Product Numbers: L275.10

Hazard Overview

HMIS Rating: 3-0-3-F NFPA Rating: NE
Warning Label: DANGER! POISON!

May be fatal if swallowed, inhaled or absorbed through the skin. Use only with adequate protective equipment and ventilation. Do not breath dust. May cause irritation to skin, eyes and respiratory tract. Wash thoroughly after handling.

Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead dioxide</td>
<td>01309-60-0</td>
<td>100</td>
</tr>
</tbody>
</table>

Physical Data

Boiling Point: decomp 290 °C Specific Gravity: 9.38
Melting Point: NA Evaporation Rate: NA
Vapor Pressure: NA Vapor Density: 8.2 Air = 1
Solubility: Insoluble in water.
Appearance and Odor: Dark brown powder. Odorless.

Fire and Explosion Data

Flash Point: NA Test Method: NA
Auto-ignition Temperature: NA
Flammable Limits (% by volume in air): Upper: NA Lower: NA

Fire Extinguishing Media:
Use extinguishing media appropriate for surrounding fire. Do not allow runoff to enter sewer or storm drains.

Special Firefighting Procedures:
Use water to cool nearby containers and structures. Wear full protective equipment, including suitable respiratory protection.

Unusual Fire and Explosion Hazards:
Strong oxidizer. Contact with combustible or flammable materials can cause fire or explosion.

Health Hazard Information

Effects of Overexposure
Skin Contact:
Contact may cause skin irritation. Prolonged contact may allow for absorption through the skin. In extreme
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MSDS Number:  L275
Revision Date:  16-Apr-08
Revision No.:  002

Health Hazard Information

Effects of Overexposure

Skin Contact:
cases poisoning can occur with symptoms similar to those outlined under ingestion.

Eye Contact:
Contact may be irritating to the eyes. Absorption through the eyes may occur.

Ingestion:
Harmful or fatal if swallowed. Symptoms of lead poisoning include abdominal pain and spasms, nausea, vomiting and headache. Acute poisoning can lead to muscle weakness, discoloration of the gums, metallic taste, loss of appetite, insomnia, dizziness, with shock, coma and death in extreme poisoning cases.

Inhalation:
Harmful or fatal if inhaled. Lead can be absorbed through the respiratory system. Poisoning symptoms parallel those of ingestion. Irritation of the respiratory system may occur.

Chronic Effects of Overexposure:
Lead is a cumulative poison and repeated exposure to even small amounts can raise the body's lead content to toxic levels. Symptoms of chronic exposure are similar to those of ingestion and restlessness, irritability, visual disturbances, hypertension and a gray pallor may also be noted.

Exposure Limits:

<table>
<thead>
<tr>
<th>Component</th>
<th>TWA (as Pb)</th>
<th>OSHA PEL</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead dioxide</td>
<td>0.05 mg/m³</td>
<td>NE</td>
<td>NE</td>
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</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>TWA (as Pb)</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead dioxide</td>
<td>0.15 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Toxicity Data:

Lead dioxide LD50 (intraperitoneal, guinea pig) 220 mg/kg

Medical Conditions Generally Aggravated by Exposure:

Eye or skin conditions. Kidney, nerve, & circulatory disorders.

Target Organs:
None Identified

Reproductive Effects:
Lead is considered a reproductive system hazard.

Carcinogenicity:
For lead and lead compounds: EPA/IRIS classification: Group B2- Probable human carcinogen, sufficient animal evidence.

<table>
<thead>
<tr>
<th>Component</th>
<th>NTP Listing</th>
<th>IARC Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead dioxide</td>
<td>No listing</td>
<td>No listing</td>
</tr>
</tbody>
</table>

OSHA Regulated: ☐

Emergency First Aid Procedures

Skin Contact:
Immediately remove contaminated clothing. Flush skin with water for at least 15 minutes. Seek immediate medical attention.

Eye Contact:
Flush with water for at least 15 minutes. Seek immediate medical attention.
Emergency First Aid Procedures

Inhalation:
Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult administer oxygen. Seek medical attention.

Ingestion:
Give victim large amounts of water and induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.

Additional First aid and Treatment Notes:
No information available

Reactivity Data

Stability: Stable
Hazardous Polymerization: Will Not Occur
Incompatibles:
Aluminum powder, magnesium, potassium, sodium, sulfides, phosphorus, hydrogen peroxide, nitrogen compounds, reducing materials

Decomposition Products:
Toxic fumes of lead

Conditions to Avoid:
Shock, friction, heat.

Spill and Disposal Procedures

Spill and Leak Procedures:
Wear self-contained breathing apparatus and full protective clothing. Carefully sweep or scoop material into a clean, dry disposal container in a manner that minimizes dusting. Cover and save for proper disposal. Flush spill area with water. Contain runoff. Do not flush spill residues to sewer or storm drains. Vacuuming or wet sweeping may be used to avoid dust dispersal.

Disposal Procedures:
Dispose in accordance with all Local, State and Federal regulations.

Protective Equipment

Ventilation:
Use general or local exhaust ventilation to meet TLV and PEL requirements.

Respiratory Protection:
If airborne concentration exceeds PEL or TLV a dust/mist respirator with chemical goggles may be worn, in general, up to 10 times the TLV. or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lower.

A full face-piece, positive pressure, supplied air respirator should be on hand for emergency situations and instances where the airborne concentration is unknown.

Skin and Eye Protective Equipment:
Safety goggles, protective clothing and gloves. Maintain an eyewash station and safety shower nearby.

Storage and Handling Precautions

Storage Area: HEALTH HAZARD
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Storage and Handling Precautions

Store in a cool, dry well-ventilated area or cabinet dedicated to toxic storage. Isolate away from incompatible materials. Keep containers well closed. Areas in which exposure to lead compounds may occur should be identified by appropriate means and access restricted to authorized persons.

Transportation Information

- **Regulated Material domestic ground transportation**
  
  Proper Shipping Name: Lead dioxide
  UN or NA Identification number: UN1872
  Hazard Class and Label: 5.1 Oxidizer
  Subsidiary Risk and Label:

- **Regulated Material via Air Transportation**
  
  (reference: ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air)

  Proper Shipping Name: Lead dioxide
  UN Identification Number: UN1872
  Hazard Class and Label: 5.1 Oxidizer
  Subsidiary Risk and Label:

  Packing Instruction: 516/Y516
  Max net qty per package: 25kg/10kg

Regulatory Information

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA Inventory</th>
<th>CERCLA RQ</th>
<th>SARA EHS TPQ</th>
<th>SARA 313 Toxic Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead dioxide</td>
<td>✔️</td>
<td>lbs</td>
<td>lbs</td>
<td>de minimus</td>
</tr>
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</table>

SARA Hazard Categories:
- Acute
- Chronic
- Flammability
- Pressure
- Reactivity

Clean Air Act Categories:
- SOCMI
- HAP
- Volatile HAP
- Organic HAP
- Ozone Depleting

MSDS Revision History:
002 - Updated Header Information

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