MOLYBDENUM TRIOXIDE
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)

M913
Revision Date: 16-Apr-08
Revision No.: 004

Product Identification

Product Name: MOLYBDENUM TRIOXIDE
Synonyms: Molybdic anhydride
Chemical Formula: MoO3
Formula Weight: 143.95

Composition

Component: Molybdenum trioxide
CAS #: 01313-27-5
%: 100

Physical Data

Boiling Point: 1150 °C
Melting Point: 795 °C
Specific Gravity: 4.69
Evaporation Rate: NA
Water = 1
Air = 1

Solubility: Slightly soluble in water (0.1-1%)
Appearance: White to pale green powder.

Fire and Explosion Data

Flash Point: 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.

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

Unusual Fire and Explosion Hazards:
Dust explosion hazard.

Health Hazard Information

Effects of Overexposure
Skin Contact:
Contact may cause skin irritation.
Health Hazard Information

**Eye Contact:**
Contact may be irritating to the eyes.

**Ingestion:**
Harmful if swallowed. Ingestion may cause nausea, vomiting and gastrointestinal irritation. Severe distress, cramping, and hypertension.

**Inhalation:**
Harmful if inhaled. Irritating to the upper respiratory tract and mucous membranes. May be absorbed into the bloodstream with symptoms similar to ingestion.

**Chronic Effects of Overexposure:**
None identified. Molybdenum is rapidly excreted from the body. Persons exposed for long periods suffer from anemia.

**Exposure Limits:**

<table>
<thead>
<tr>
<th>Component</th>
<th>TWA</th>
<th>STEL</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molybdenum trioxide</td>
<td>NE</td>
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**ACGIH TLV**

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**Toxicity Data:**

- Molybdenum trioxide: LC50 (inhalation, rat) >5840 mg/m3/4H
- Molybdenum trioxide: LD50 (oral, rat) 2689 mg/kg

**Medical Conditions Generally Aggravated by Exposure:**
Skin disorders, eye disorders and respiratory system disease.

**Target Organs:**
None identified

**Reproductive Effects:**
None identified

**Carcinogenicity:**
None identified

<table>
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<tr>
<th>Component</th>
<th>NTP Listing</th>
<th>IARC Listing</th>
<th>OSHA Regulated</th>
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<tr>
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**Emergency First Aid Procedures**

**Skin Contact:**
Remove contaminated clothing. Flush skin with water for at least 15 minutes. Seek medical attention if irritation persists.

**Eye Contact:**
Flush with water for at least 15 minutes. Seek immediate medical attention.

**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
Emergency First Aid Procedures

Ingestion:

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:

Incompatible with strong oxidizers. Alkali metals, most common metals. Explodes on contact with molten magnesium. Violent reaction with interhalogens.

Decomposition Products:

Toxic metals fumes on decomposition.

Conditions to Avoid:

Incompatibles.

Spill and Disposal Procedures

Spill and Leak Procedures:

Prevent spread of spill. Wear full protective equipment and respiratory protection. Sweep or scoop into a suitable disposal container in a manner that does not generate dusts. Save for reclamation or disposal.

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:

None required where adequate ventilation conditions exist. If airborne concentration exceeds PEL or TLV a dust/mist respirator is recommended.

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: GENERAL

Store in a cool, dry area. Keep away from incompatible substances. Protect from direct light and minimize contact with air. Protect containers from physical damage.

Transportation Information

Regulated Material domestic ground transportation

(reference: CFR Title 49, Transportation)

Proper Shipping Name: Hazard Class and Label:

UN or NA Identification number: Packing Group: Subsidiary Risk and Label:
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Transportation Information

☐ Regulated Material via Air Transportation

(reference: ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air)

Proper Shipping Name: 
UN Identification Number: 
Packing Group: 
Hazard Class and Label: 
Subsidiary Risk and Label: 
Packing Instruction: 
Max net qty per package: 
Passenger Aircraft: 
Cargo Aircraft: 

Regulatory Information

<table>
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<tr>
<th>Component</th>
<th>TSCA Inventory</th>
<th>CERCLA RQ</th>
<th>SARA EHS TPQ</th>
<th>SARA 313 Toxic Release de minimus</th>
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<tbody>
<tr>
<td>Molybdenum trioxide</td>
<td></td>
<td>lbs</td>
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<td>☑ 1.0 lbs</td>
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SARA Hazard Categories: Acute Chronic Flammability Pressure Reactivity
Molybdenum trioxide

Clean Air Act Categories: SOCMI HAP Volatile HAP Organic HAP Ozone Depleting
Molybdenum trioxide

MSDS Revision History:
002 - Changed header phone number
003 - Format revisions; updated header phone number
004 - Updated Header Information

NE = Not established, NA = Not applicable or Not available

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