**MATERIAL SAFETY DATA SHEET**

**CHEMALLOY CO. INC.**  
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Telephone: (215) 527-3700

CHEMICAL NAME: Titanium Dioxide  
COMMON/TRADE NAME: Ilmenite, Leucoxene, Rutile, Rutile 94, TiO₂  
DATE: May 23, 1994  
SUPERSEDES: December 13, 1993

### SECTION I — HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Components (Specific Chemical Identity)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>10mg/m³ Total Dust</td>
<td>10mg/m³ TWA</td>
</tr>
<tr>
<td>Silicon Dioxide</td>
<td>14808-60-7</td>
<td>0.1mg/m³ TWA (Respirable Dust)</td>
<td>0.1mg/m³ TWA (Respirable Dust)</td>
</tr>
</tbody>
</table>

### SECTION II — PHYSICAL/CHEMICAL CHARACTERISTICS

- **Melting Point**: Approx. 3000°F  
- **Specific Gravity (H₂O = 1)**: 4.3 to 5.0  
- **Solvability** (Water): Nil  
- **Appearance and Odor**: Black to brownish red luster. No odor.

### SECTION III — REACTIVITY DATA

- **Stability**: Unstable  
- **Conditions to Avoid**: X  
- **Incompatibility (Materials to Avoid)**: None Known.  
- **Hazardous Decomposition or Byproducts**: None Known.  
- **Hazardous Polymerization**: May Occur
  - **Conditions to Avoid**: X  
- **Will Not Occur**: X

### SECTION IV — FIRE AND EXPLOSION HAZARD DATA

- **Flash Point (Method Used)**: None.  
- **Extinguishing Media**:  
- **Special Fire Fighting Procedures**: Not a fire or explosion hazard.  
- **Unusual Fire and Explosion Hazards**:  

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SECTION V — HEALTH HAZARD DATA

Route(s) of Entry

Inhalation.

Health Hazards (Acute and Chronic)

May cause irritation of the respiratory system. Long-term overexposure may cause silicosis (lung damage) due to silica content. This product contains 1% to 5% crystalline silica (common sand), small amounts of which may be in respirable form and may cause cancer risk if long-term overexposure exists.

Carcinogenicity

Crystalline silica (common sand) has been listed by the International Agency for Research on Cancer as a probable human carcinogen. NIOSH has classified Titanium Dioxide as a carcinogen based on an experimental animal study, but U.S. OSHA and the American Conference of Governmental Industrial Hygienists (ACGIH) have found insufficient evidence to list it as such.

Signs and Symptoms of Overexposure

Irritation of the respiratory system.

Emergency and First Aid Procedures

On contact with skin, practice proper hygiene. On contact with eyes, flush eyes thoroughly with water for 15 minutes. On inhalation of excessive dust, move to fresh air. Seek medical attention if problems persist.

SECTION VI — SPECIAL PROTECTION AND PRECAUTIONS

Ventilation and Engineering Controls

Local Exhaust.

Personal Protective Equipment

NIOSH approved dust filter respirator.

Safe Handling, Use and Storage

Normal handling and storage.

Protective Measures During Repair & Maintenance

Wear protective equipment listed above.

Other


SECTION VII — SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material is Released or Spilled

Use normal clean-up procedure.

Waste Disposal Method

Follow federal, state and local regulations.

Other Precautions

Follow all other precautions and data noted herein.

NOTE: The data contained in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information herein is based on technical data that Chemalloy believes to be reliable. It is intended to be used by persons with technical skill. Prior to use, users shall conduct their own investigation(s) to determine the suitability of the information for their particular purpose, and appropriate warnings and safe handling procedures should be provided to handlers and users. Any use of this data must be determined by the user to be in accordance with federal, state and local laws and regulations. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents. Since conditions of use and suitability are beyond Chemalloy’s control, any risk of use and suitability are therefore assumed by the user, and Chemalloy expressly disclaims all warranties, including warranties of merchantability and fitness for a particular purpose, express or implied, in respect to the use or suitability of the material.