



# SAFETY DATA SHEET

KRONOS, Inc.  
 P.O. Box 4272  
 Houston, TX 77210  
 Customer Service: (800) 866-5600

Emergency Telephone No.  
 CHEMTREC: (800) 424-9300  
 KRONOS: (800) 866-5600

<b>Product Name:</b> KRONOS® TITANIUM DIOXIDE	<b>Revision date:</b> September 23, 1997
<b>Product Code(s):</b> ALL GRADES	<b>Supersedes date:</b> September 19, 1997

## 2. PRODUCT COMPOSITION

<b>Product Classification:</b> Titanium Dioxide		
Component(s)	C.A.S. No.	Percent
Titanium Dioxide (Some grades may be surface-treated with the following components):	13463-67-7	80 - 100
Aluminum Hydroxide	21645-51-2	0-9
Amorphous Silica	112926-00-8	0-11

## 3. HAZARD IDENTIFICATION

<b>Warning:</b> <ul style="list-style-type: none"> <li>○ May cause mechanical eye irritation.</li> <li>○ Nuisance Dust: Long term exposure to airborne concentrations above the recommended exposure limits may cause lung damage.</li> </ul>	<b>Protective Measures:</b> <ul style="list-style-type: none"> <li>○ Avoid contact with the eyes.</li> <li>○ Use in well ventilated areas.</li> <li>○ Do not breathe dust.</li> </ul>
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## 4. FIRST AID MEASURES

<b>Inhalation:</b>	Remove person to fresh air. If breathing is difficult, provide oxygen and seek medical attention.
<b>Eye Contact:</b>	Rinse eyes immediately with water for at least 15 minutes. See a physician.
<b>Skin Contact:</b>	Wash skin thoroughly with soap and water. See a physician if irritation persists.
<b>Ingestion:</b>	Provide symptomatic treatment and seek medical attention.

## 5. FIRE FIGHTING MEASURES

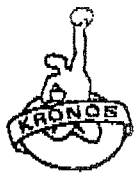
<b>Flash Point:</b> N.A.	<b>Method:</b> N.A.	<b>LEL:</b> N.A.	<b>UEL:</b> N.A.
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### EXTINGUISHING MEDIA/FIRE FIGHTING PROCEDURES

Use the following extinguishing media when fighting fires involving this material: water fog, foam, dry chemical, or carbon dioxide.

### UNUSUAL HAZARDS

Normal precautions for dusts should be provided. Avoid high concentrations of dust in air.



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## 6. ACCIDENTAL RELEASE MEASURES

<b>RELEASE RESPONSE</b>
Minimize dusting. <b>CAUTION:</b> may cause a slippery condition when wet. Sweep/shovel up and transfer into a suitable container for re-use or disposal.
<b>PERSONAL PROTECTIVE EQUIPMENT</b>
Wear a MSHA/NIOSH approved (or equivalent) air-purifying respirator equipped with filters for protection against dusts and mists. Wear cotton or canvas gloves. Wear safety glasses (ANSI Z87.1 or approved equivalent).

## 7. HANDLING AND STORAGE

<b>HANDLING</b>
Avoid high concentrations of dust in air through the use of ventilation or other suitable controls.
<b>STORAGE</b>
This material is not hazardous under normal operating conditions.

## 8. EXPOSURE CONTROL INFORMATION

<b>OCCUPATIONAL EXPOSURE LIMITS</b>		
	<b>ACGIH - TLV</b>	<b>OSHA - PEL</b>
Titanium Dioxide	8 hr. TWA - 10 mg/m <sup>3</sup> , total	8 hr. TWA - 10 mg/m <sup>3</sup> , total
Nuisance Dust:	8 hr. TWA - 5 mg/m <sup>3</sup> , respirable	8 hr. TWA - 5 mg/m <sup>3</sup> , respirable
Aluminum hydroxide	Not established	Not established
Amorphous silica	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

<b>ENGINEERING CONTROL MEASURES</b>	
Use local exhaust ventilation if airborne concentrations exceed recommended exposure limits.	

<b>PERSONAL PROTECTION EQUIPMENT</b>	
Respiratory:	Use an air-purifying respirator equipped with filters for protection against dusts and mists.
Hand:	Use cotton or canvas gloves.
Eye:	Eye protection worn must be compatible with respiratory protection system employed.

<b>OTHER CONTROL MEASURES</b>	
Use good industrial hygiene practices. Wash hands and face before eating or drinking.	



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## 9. PROPERTIES

<b>Appearance:</b> White powder	<b>Odor:</b> None	<b>pH:</b> N.A.
<b>Boiling Range:</b> N.A.	<b>Melting Range:</b> > 1000° C	<b>Specific Gravity:</b> 3.7 - 4.2
<b>Solubility:</b> Insoluble	<b>Vapor Density:</b> Heavier than air.	<b>Vapor Pressure:</b> N.A.
<b>% Volatile:</b> 0	<b>Freezing Point:</b> N.A.	<b>Density at 20° C:</b> 30-35 lbs/gal

## 10. REACTIVITY INFORMATION

<b>Conditions to Avoid:</b>	Avoid contact with metals at high temperatures.
<b>Hazardous Polymerization:</b>	Hazardous polymerization will not occur.
<b>Hazardous Decomposition:</b>	Hazardous decomposition will not occur.
<b>Stability:</b>	This material is stable under normal operating conditions.

## 11. HEALTH/TOXICITY INFORMATION

### HEALTH HAZARDS

#### Effects of Acute Exposure

- Inhalation:** Inhalation of dust can cause irritation of the nose, throat, and lungs.  
**Eye Contact:** Like any foreign body, particles can cause mechanical irritation.  
**Skin Contact:** This material can cause irritation if not promptly washed from the skin.  
**Skin Absorption:** This product is not expected to be absorbed through intact skin.  
**Ingestion:** This material is not expected to produce adverse effects.

#### Effects of Chronic Over Exposure

As with any nuisance dust, long-term exposure to concentrations above the recommended exposure limits may overload the lung clearance mechanism and cause adverse lung effects and shortness of breath.

Listed as a suspected or known carcinogen on: IARC: No NTP: No OSHA: No

**Medical Conditions Aggravated:** Respiratory disorders.

### TOXICITY INFORMATION

**Acute Oral LD<sub>50</sub> (Rat):** > 7,500 mg/kg (TiO<sub>2</sub>).



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## ENVIRONMENTAL/DISPOSAL CONSIDERATIONS

### 12. ENVIRONMENTAL HAZARDS

None known.

### 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, and federal regulations. Use a licensed waste handler.

### 14. TRANSPORTATION

<b>Shipping Name:</b> Titanium Dioxide		<b>Label:</b> N.A.	
<b>Hazard Class:</b> Not regulated	<b>Packing Group:</b> N.A.	<b>UN#:</b> N.A.	

### 15. REGULATORY INFORMATION

<b>CHEMICAL INVENTORIES</b> In compliance denotes that all components are on the inventory or exempt.			
U.S. TSCA Inventory:	In Compliance	Australian Inventory:	In Compliance
European Inventory:	In Compliance	Korean Inventory:	In Compliance
Canadian Inventory:	In Compliance	Japanese Inventory:	In Compliance
<b>SARA 313 Information</b>			
Not regulated.			
<b>OTHER REGULATORY INFORMATION</b>			
This product is WHMIS controlled.			

### 16. OTHER INFORMATION

<b>H.M.I.S. CODES</b>	Health: 1	Flammability: 0	Reactivity: 0
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