

Safety Data Sheet  
 according to HPR, Schedule 1

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

**1 Identification**
**Product identifier**

**Trade name:** KRONOS Titanium dioxide  
**Product Codes:** KRONOS 1000; KRONOS 1002; KRONOS 2044;  
 KRONOS 2073; KRONOS 2078; KRONOS 2211;  
 KRONOS 2220; KRONOS 2222; KRONOS 2230;  
 KRONOS 2233; KRONOS 2350; KRONOS 2500;

**CAS Number:** 13463-67-7

**EC number:** 236-675-5

**Relevant identified uses of the substance or mixture:** White pigment for application in coating materials, printing inks, man-made fibres, plastics, paper, glass, vitreous enamels, ceramic products

**Uses advised against:** Manufacture of titanium metal  
 None

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:** KRONOS Canada Inc.  
 3390, Marie-Victorin  
 Varennes QC, J3X 1T4

**Emergency telephone number:** +1-514-397-1550 for transportation emergencies only (Canada)  
 +1-800-424-9300 (Chemtrec) for transportation emergencies only (U.S.)  
 +1-800-866-5600 for other product information (8:00 am – 5:00 pm, central time U.S.)

**2 Hazard identification**

**Classification of the substance or mixture:** The substance is not classified, according to the Globally Harmonized System (GHS).

**Label elements:**  
**GHS label elements:** Not applicable  
**Hazard pictograms:** Not applicable  
**Signal word:** Not applicable  
**Hazard statements:** Not applicable

**Other hazards:** Dust load

**3 Composition/Information on ingredients**
**Chemical characterization: Substances**

**CAS No. Description:** 13463-67-7 titanium dioxide

**EC number:** 236-675-5

(Contd. on page 2)

Safety Data Sheet  
 according to HPR, Schedule 1

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 1)

**4 First-aid measures**
**Description of first aid measures**
**General information**

No special measures required.

**After inhalation**

Supply fresh air; consult doctor in case of complaints.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

**After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing**

Rinse out mouth and then drink plenty of water.

**Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Fire-fighting measures**
**Extinguishing media**
**Suitable extinguishing agents**

 Use fire fighting measures that suit the environment.  
 The product is not flammable.

**Special hazards arising from the substance or mixture**

None

**Advice for firefighters**
**Protective equipment:**

Use protective measures that suit the hazard conditions.

**6 Accidental release measures**
**Personal precautions, protective equipment and emergency procedures**

Not required.

**Environmental precautions:**

No special measures required.

**Methods and material for containment and cleaning up:**

Avoid dust formation. Sweep or vacuum up, use vacuum approved for fine dusts.

**Reference to other sections**

 See Section 8 for information on personal protective equipment.  
 See Section 13 for disposal information.

(Contd. on page 3)

Safety Data Sheet  
 according to HPR, Schedule 1

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 2)

**7 Handling and storage**
**Handling**
**Precautions for safe handling  
 Information about protection  
 against explosions and fires:**

Provide vacuum dust collection if dust is formed.

 The product is not flammable  
 Titanium dioxide product may be packaged at temperatures of approximately 100 to 120 °C (212 to 248 °F) and stay hot for a long time depending on ambient temperatures and inventory storage practices. Due to the potential of elevated pigment temperature, caution should be used while handling pigment and when used in or near volatile solvent applications.

**Conditions for safe storage, including any incompatibilities**
**Requirements to be met by  
 storerooms and receptacles:  
 Information about storage in  
 one common storage facility:**

No special requirements.

Not required.

**Further information about  
 storage conditions:**

Store in dry conditions.

**8 Exposure controls/ Personal protection**
**Control parameters**
**Components with limit values that require monitoring at the workplace:**
**CAS: 13463-67-7 Titanium dioxide**
**EL (Canada) TWA: 10\* 3\*\* mg/m<sup>3</sup>**  
 \*total dust; \*\*respirable fraction; IARC 2B

**OEL-QUEBEC long-term value: 10\*; N.E.\*\* mg/m<sup>3</sup>**  
 \* total dust; \*\* respirable dust

**ACGIH - TLV (USA) TWA: 10 TWA, mg/m<sup>3</sup>**  
 respirable fraction 1mg/m<sup>3</sup> TWA

**OSHA - PEL (USA) TWA: 15\* 5\*\* mg/m<sup>3</sup>**  
 \*total dust; \*\*respirable fraction; 8 hr TWA

**Exposure controls**

Use local exhaust ventilation if airborne concentrations would otherwise exceed applicable exposure limits.

**Personal protective equipment  
 General protective and hygienic  
 measures**

 The usual precautionary measures for handling chemicals should be followed.  
 Titanium dioxide pigments are not irritant but as with all fine powders can absorb moisture and natural oil from the surface of the skin during prolonged exposure. Prolonged exposure should be avoided by wearing suitable protective gloves and clothing.

(Contd. on page 4)

Safety Data Sheet  
 according to HPR, Schedule 1

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 3)

<b>Breathing equipment:</b>	If workplace exposure limits are exceeded, use respiratory protection according to national regulations. The respirator must be selected by a technically qualified individual.
<b>Protection of hands:</b>	Use gloves appropriate for work conditions to minimize prolonged skin contact and prevent drying and subsequent irritation of skin. Check protective gloves prior to each use for their proper condition. Preventive skin protection by use of skin-protecting agents is recommended.
<b>Eye protection:</b>	Safety glasses
<b>Body protection:</b>	Protective work clothing.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

Form:	Powder
Color:	White
Odor:	Odorless
Odor threshold:	Not relevant

pH-value at 20°C: 7

Melting point/Melting range: >1800°C  
 Boiling point/Boiling range: Not relevant

Flash point: Not applicable

Flammability (solid, gaseous): Product is not flammable.

Ignition temperature: Not applicable

Danger of explosion: Product is not explosive.

Density: 20°C    Anatase 3,9 g/cm<sup>3</sup> (30 lbs/ U.S. gal.)  
                                          Rutile 4,2 g/cm<sup>3</sup> (35 lbs/U.S. gal.)

Bulk density: ca. 500-900 kg/m<sup>3</sup> (4.2 - 7.5 lbs/U.S. gal.)  
 Vapor density: Not applicable.  
 Evaporation rate: Not applicable.

Solubility in / Miscibility with  
 Water: Insoluble

Partition coefficient (n-octanol/water): Not applicable

(Contd. on page 5)

**Safety Data Sheet  
according to HPR, Schedule 1**

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 4)

**Viscosity:**  
dynamic: **Not applicable.**

**Other information** **No further relevant information available.**

**10 Stability and reactivity**

**Reactivity** **The substance is stable under normal use conditions.**

**Chemical stability**  
**Thermal decomposition /**  
**conditions to be avoided:** **No decomposition under normal use conditions.**

**Possibility of hazardous**  
**reactions** **No dangerous reactions known**

**Conditions to avoid** **No further data; see Section 7.**

**Incompatible materials:** **No further data; see Section 7.**

**Hazardous decomposition**  
**products:** **No dangerous decomposition products known.**

**11 Toxicological information**
**Information on toxicological effects**
**Acute toxicity:**
**LD/LC50 values that are relevant for classification:**
**CAS: 13463-67-7 Titanium dioxide**
**Oral LD50 > 5,000 mg/kg (rat) (OECD 425)**
**Dermal LD50 > 5,000 mg/kg (rabbit)**
**Inhalative LC50/4h > 6.8 mg/l (rat)**
**Primary irritant effect:**

**on the skin:** **OECD 404:**  
**No irritant effect.**  
**Powderized material may dry and mechanically irritate skin.**

**on the eye:** **OECD 405:**  
**No irritating effect.**  
**Like any foreign body, particles (dust) can cause mechanical**  
**irritation.**

**Sensitization:** **OECD 406, OECD 429**  
**No sensitizing effects.**

(Contd. on page 6)

CA

**Safety Data Sheet  
according to HPR, Schedule 1**

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 5)

**Subacute to chronic toxicity:****CAS: 13463-67-7 Titanium dioxide****Oral NOAEL 3,500 mg/kg/d (rat) (90 d)****Dermal NOAEL (-)  
no relevant data available****Inhalative NOAEC 10 mg/m<sup>3</sup> (rat) (90 d)****Additional toxicological  
information:****Titanium Dioxide**

On February 18, 2020, the European Union (EU) published the delegated regulation classifying certain powder titanium dioxide (TiO<sub>2</sub>) as a suspected carcinogen (Category 2) via inhalation under EU Regulation No 1272/2008 on classification, labelling, and packing (CLP) of substances and mixtures. Classification requirements will come into force on October 1, 2021, mandating hazard labels be placed on certain TiO<sub>2</sub> powder products and certain powder mixtures containing TiO<sub>2</sub> sold into the EU market. This classification of TiO<sub>2</sub> is not based on new science but instead on older scientifically questioned animal test data. Other studies and extensive data, including separate epidemiologic studies of TiO<sub>2</sub> workers, have shown no TiO<sub>2</sub>-specific links to cancer. TiO<sub>2</sub> has been characterized by IARC as possibly carcinogenic to humans (Group 2B) through inhalation (not ingestion). It has not been characterized as a potential carcinogen by either NTP or OSHA.

**Carcinogenic categories****IARC (International Agency for Research on Cancer)****: 2B****NTP (National Toxicology Program)****Substance is not listed.****12 Ecological information****Toxicity****Toxicity to fish****CAS: 13463-67-7 Titanium dioxide****LC50 > 10,000 mg/l (Sheepshead minnow)  
(semi-static, OECD 203 (acute toxicity for fish))****> 1,000 mg/l (Pimephales promelas)  
(static, EPA-540/9-85-006, Acute Toxicity Test for Freshwater Fish)****Toxicity to Daphnia and other aquatic invertebrates****CAS: 13463-67-7 Titanium dioxide****LC50 > 10,000 mg/l (Acartia tonsa)  
(ISO 14669 (1999); ISO 5667-16 (1998))**

(Contd. on page 7)

CA

Safety Data Sheet  
 according to HPR, Schedule 1

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 6)

> 1,000 mg/l (*Daphnia magna*)  
 (static, OECD 202 (daphnia acute immobilisation test))

**Toxicity to algae and aquatic plants**

CAS: 13463-67-7 Titanium dioxide

EC50 > 100 mg/l (*Pseudokirchneriella subcapitata*)  
 (static, OECD 201 (freshwater alga and cyanobacteria, growth inhibition test))

> 10,000 mg/l (*Skeletonema costatum*)  
 (ISO 10253)

**Toxicity to sediment organisms**

CAS: 13463-67-7 Titanium dioxide

NOEC ≥ 100,000 mg/kg dw (*Hyalella azteca*)  
 (semi-static, ASTM 1706)

**Persistence and degradability** Not relevant for inorganic substances.

**Bioaccumulative potential** Does not accumulate in organisms

**Mobility in soil** The substance is immobile in soil.

**Other adverse effects** No further relevant information available.

**13 Disposal considerations**

**Waste treatment methods  
 Recommendation**

Disposal must be made according to all federal, state, and local  
 (municipal) regulations.

**Uncleaned packagings:  
 Recommendation:**

Disposal must be made according to all federal, state, and local  
 (municipal) regulations.

**14 Transport information**

**UN-Number**  
 DOT/TDG, ADR, ADN, IMDG, IATA Not applicable  
**UN proper shipping name**  
 ADR, ADN, IMDG, IATA Not applicable  
**Transport hazard class(es)**

**DOT, ADR, ADN, IMDG, IATA  
 Class** Not applicable

**Packing group**  
 DOT/TDG, ADR, IMDG, IATA Not applicable  
**Environmental hazards:** Not an environmentally hazardous substance.  
**Special precautions for user** Not applicable.

(Contd. on page 8)

Safety Data Sheet  
 according to HPR, Schedule 1

Printing date 09/01/2022

Version 6.00

Reviewed on 09/01/2022

Trade name: KRONOS Titanium dioxide

(Contd. of page 7)

 Transport in bulk according to Annex II of  
 MARPOL73/78 and the IBC Code      Not applicable.

**15 Regulatory information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

**TSCA and Canada DSL Status:**

: ACTIVE

**WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)  
 EPA (Environmental Protection Agency)**

 Substance is not listed.  
 Additional Occupational  
 Exposure Limit Values:

<b>OEL-NEW BRUNSWICK:</b> <b>OEL-ALBERTA:</b> mg/m <sup>3</sup>	<b>TWA: 1997 ACGIH TLV mg/m<sup>3</sup></b> <b>Long-term value: 10*; N.E.**</b>
<b>OEL-NW TERRITORIES:</b> m <sup>3</sup>	<b>* total dust; ** respirable dust</b> <b>Long-term value: 10*; 5** mg/</b>
<b>OEL-NOVA SCOTIA:</b> mg/m <sup>3</sup>	<b>* total dust; ** respirable dust</b> <b>Long-term value: 10*; N.E.**</b>
<b>OEL-ONTARIO:</b> mg/m <sup>3</sup>	<b>* total dust; ** respirable dust</b> <b>Long-term value: 10*; N.E.**</b>
<b>OEL-SASKATCHEWAN:</b>	<b>* total dust; ** respirable dust</b> <b>Long-term value: 10* mg/m<sup>3</sup></b> <b>* total dust;</b> <b>20 mg/m<sup>3</sup>, 15-min avg.</b>
<b>OEL-YUKON TERRITORIES:</b>	<b>Long-term value: 10* mg/m<sup>3</sup></b> <b>* total dust;</b> <b>20 mg/m<sup>3</sup>, 15-min avg.</b>
<b>OEL-NEWFOUNDLAND, LABRADOR:</b> mg/m <sup>3</sup>	<b>Long-term value: 10*; N.E.**</b> <b>* total dust; ** respirable dust</b> <b>STEL: 10 A mg/m<sup>3</sup></b>

 EU REACH registration status:  
 Substances of very high  
 concern (SVHC) according to  
 EU REACH, Article 57

 The product is not listed as SVHC, it does not contain any  
 substances of very high concern.

**16 Other information**

 This information is based on our present knowledge. However, this shall not constitute a guarantee  
 for any specific product features and shall not establish a legally valid contractual relationship.

 Contact:      KRONOS Canada, Inc.  
 Tel.: INT + 1 800 866 5600  
 e-mail : SDS-NA@kronosww.com

(Contd. on page 9)



**Safety Data Sheet  
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**Trade name: KRONOS Titanium dioxide**

(Contd. of page 8)

**Date of the latest revision of the  
safety data sheet**                      **09/01/2022****Abbreviations and acronyms:**    **IMDG: International Maritime Code for Dangerous Goods**  
**DOT: US Department of Transportation**  
**IATA: International Air Transport Association**  
**EINECS: European Inventory of Existing Commercial Chemical Substances**  
**CAS: Chemical Abstracts Service (division of the American Chemical Society)**  
**LC50: Lethal concentration, 50 percent**  
**LD50: Lethal dose, 50 percent**

CA