

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

Printing date 10/05/2022

Version 1.10

Reviewed on 10/05/2022

**1 Identification****Product identifier****Trade name:** KRONOS 3025**CAS Number:** 13463-67-7**EC number:** 236-675-5**Relevant identified uses of the  
substance or mixture****Additive for application in  
Glass, vitreous enamels, ceramic products****Details of the supplier of the safety data sheet****Manufacturer/Supplier:** KRONOS Canada Inc.  
3390, Marie-Victorin  
Varenes 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**3 Composition/Information on ingredients****Chemical characterization: Substances****CAS No. Description:** 13463-67-7 Titanium dioxide**EC number:** 236-675-5**Additional information:** Titanium dioxide without pigment property**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** Wash with water and soap and rinse thoroughly.**After eye contact** Rinse opened eye for several minutes under running water.  
If symptoms persist consult doctor.

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**Information about storage in one common storage facility:** Not required.  
**Further information about storage conditions:** Store in dry conditions.

## 8 Exposure controls/ Personal protection

**Additional information about design of technical systems:** No further data; see Section 7.

### 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\* mg/m<sup>3</sup>  
 \*total dust, 8 hr TWA

### Exposure controls

#### 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.

**Breathing equipment:**

If workplace exposure limits are exceeded, use respiratory protection according to national regulations.  
 The respirator must be selected by a technically qualified individual.

**Protection of hands:**

Check protective gloves prior to each use for their proper condition.  
 Preventive skin protection by use of skin-protecting agents is recommended.

**Material of gloves:**

The selection of suitable gloves depends on the type of job, the characteristics of all substances to be handled and on further marks of quality, which may vary from manufacturer to manufacturer. If the product is used in a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

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<b>Eye protection:</b>	<b>Safety glasses</b>
<b>Body protection:</b>	<b>Protective work clothing.</b>

**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:**

<b>Form:</b>	<b>Powder</b>
<b>Color:</b>	<b>White</b>
<b>Odor:</b>	<b>Odorless</b>
<b>Odor threshold:</b>	<b>Not relevant</b>

**pH-value (100 g/l) at 20°C:** 7

<b>Melting point/Melting range:</b>	<b>&gt;1800°C</b>
<b>Boiling point/Boiling range:</b>	<b>Not determined</b>

**Flash point:** Not applicable**Flammability (solid, gaseous):** Product is not flammable.**Ignition temperature:** Not applicable**Danger of explosion:** Product is not explosive.**Density at 20°C:** 4.2 g/cm<sup>3</sup>

<b>Bulk density at 20°C:</b>	<b>850 kg/m<sup>3</sup></b>
<b>Evaporation rate</b>	<b>Not applicable.</b>

<b>Solubility in / Miscibility with Water:</b>	<b>Insoluble</b>
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**Partition coefficient (n-octanol/water):** Not applicable

<b>Viscosity: dynamic:</b>	<b>Not applicable.</b>
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**Other information** No further relevant information available.**10 Stability and reactivity****Reactivity** No further relevant information available.**Chemical stability**

<b>Thermal decomposition / conditions to be avoided:</b>	<b>No decomposition under normal use conditions.</b>
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<b>Possibility of hazardous reactions</b>	No dangerous reactions known
<b>Conditions to avoid</b>	No further data; see Section 7.
<b>Incompatible materials:</b>	No further data; see Section 7.
<b>Hazardous decomposition products:</b>	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 &gt; 5,000 mg/kg (rat) (OECD 425)

Dermal LD50 &gt; 5,000 mg/kg (rabbit)

Inhalative LC50/4h &gt; 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 irritant effect

Like any foreign body, particles (dust) can cause mechanical irritation.

**Sensitization:**

OECD 406, OECD 429

No sensitizing effects.

**Subacute to chronic toxicity:**

CAS: 13463-67-7 Titanium dioxide

Oral NOAEL 3,500 mg/kg/d (rat) (90 d)

Dermal NOAEL mg/kg/d  
no relevant data availableInhalative 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.

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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))> 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** No further relevant information available.**Bioaccumulative potential** No further relevant information available.

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**Mobility in soil** No further relevant information available.

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

**13 Disposal considerations**
**Waste treatment methods  
Recommendation**

 Material is not a hazardous waste.  
 Disposal must be made according to all federal, state, and local  
 (municipal) regulations.

**Uncleaned packagings:  
Recommendation:**

 Material is not a hazardous waste.  
 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 applicable.  
**Special precautions for user** Not applicable.

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

**Transport/Additional information:** Not dangerous according to the above specifications.

**15 Regulatory information**

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

**TSCA and Canada DSL Status:**

: ACTIVE

**CERLCA/SUPERFUND (40 CFR  
117, 302)** Substance is not listed

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

Substance is not listed.

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**Additional Occupational  
Exposure Limit Values:**
**OEL-NEW BRUNSWICK:**  
**OEL-ALBERTA:**  
 mg/m<sup>3</sup>
**TWA: 1997 ACGIH TLV mg/m<sup>3</sup>**  
 Long-term value: 10\*; N.E.\*\*

**OEL-NW TERRITORIES:**  
 m<sup>3</sup>

 \* total dust; \*\* respirable dust  
 Long-term value: 10\*; 5\*\* mg/

**OEL-NOVA SCOTIA:**  
 mg/m<sup>3</sup>

 \* total dust; \*\* respirable dust  
 Long-term value: 10\*; N.E.\*\*

**OEL-ONTARIO:**  
 mg/m<sup>3</sup>

Long-term value: 10\*; N.E.\*\*

**OEL-SASKATCHEWAN:**

 \* total dust; \*\* respirable dust  
 Long-term value: 10\* mg/m<sup>3</sup>  
 \* total dust;  
 20 mg/m<sup>3</sup>, 15-min avg.

**OEL-YUKON TERRITORIES:**

 Long-term value: 10\* mg/m<sup>3</sup>  
 \* total dust;  
 20 mg/m<sup>3</sup>, 15-min avg.

**OEL-NEWFOUNDLAND, LABRADOR:** Long-term value: 10\*; N.E.\*\*  
 mg/m<sup>3</sup>

 \* total dust; \*\* respirable dust  
 STEL: 10 A mg/m<sup>3</sup>
**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.**  
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**Date of the latest revision of the  
safety data sheet**

10/05/2022

**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