Safety Data Sheet
according to HPR, Schedule 1

Printing date 09/02/2022 **Version 4.00** **Reviewed on 09/01/2022**

*

1 Identification

Product identifier
Trade name: KRONOS Titanium Dioxide (purified grades)
Product Codes KRONOS 1171, KRONOS 2071, KRONOS 3333

CAS Number: 13463-67-7
EC number: 236-675-5
Relevant identified uses of the substance or mixture White pigment for application in Foodstuffs, cosmetics, pharmaceuticals
Uses advised against for country-specific information, see section 15

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 No further relevant information available.

3 Composition/Information on ingredients

Chemical characterization: Substances
CAS No. Description: 13463-67-7 Titanium dioxide
EC number: 236-675-5

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.

(Contd. on page 2)

(Contd. of page 1)

After eye contact	**Rinse opened eye for several minutes under running water. If symptoms persist consult doctor.**
After swallowing	**No special measures required.**
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	**Avoid formation of dust. Ensure adequate ventilation**
Environmental precautions:	**No special measures required.**
Methods and material for containment and cleaning up:	**Collect mechanically. Avoid formation of dust.**
Reference to other sections	**See Section 8 for information on personal protective equipment. See Section 13 for disposal information.**

7 Handling and storage

Handling Precautions for safe handling	**Provide vacuum dust collection if dust is formed.**
Information about protection against explosions and fires:	**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,**

(Contd. on page 3)

(Contd. of page 2)

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: No special requirements.

Information about storage in one common storage facility: 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/m³
*total dust;**respirable fraction; IARC 2B

OEL-QUEBEC long-term value 10*; N.E.** mg/m³
* total dust; ** respirable dust

ACGIH - TLV (USA) TWA 10 TWA, mg/m³
respirable fraction 1mg/m³ TWA

OSHA - PEL (USA) TWA 15* 5** mg/m³
*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.

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

(Contd. on page 4)

(Contd. of page 3)

substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Safety glasses

Body protection: 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 (100 g/l) at 20°C:	7 - 8.5
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/cm³ (30 lbs/ U.S. gal.) Rutile 4,2 g/cm³ (35 lbs/U.S. gal.)
Bulk density at 20°C:	500-800 kg/m³
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble
Partition coefficient (n-octanol/water):	Not applicable
Viscosity:	
dynamic:	Not applicable.
Other information	No further relevant information available.

(Contd. on page 5)

(Contd. of page 4)

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.
No irritant effect

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	(-) no relevant data available
Inhalative	NOAEC	10 mg/m³ (rat) (90 d)

(Contd. on page 6)

(Contd. of page 5)

Additional toxicological information:

Titanium Dioxide
On February 18, 2020, the European Union (EU) published the delegated regulation classifying certain powder titanium dioxide (TiO_2) 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_2 powder products and certain powder mixtures containing TiO_2 sold into the EU market. This classification of TiO_2 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_2 workers, have shown no TiO_2-specific links to cancer.
TiO_2 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)

CAS: 13463-67-7 Titanium dioxide: 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))

(Contd. on page 7)

(Contd. of page 6)

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

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Limitation of use: Not approved for use as a food and feed additive in the European Union and Switzerland.

(Contd. on page 8)

(Contd. of page 7)

TSCA and Canada DSL Status:

CAS: 13463-67-7 Titanium dioxide: ACTIVE

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

Substance is not listed.

Additional Occupational Exposure Limit Values:	**OEL-NEW BRUNSWICK:**	**TWA: 1997 ACGIH TLV mg/m³**
	OEL-ALBERTA:	**Long-term value: 10*; N.E.** mg/m³ * total dust; ** respirable dust**
	OEL-NW TERRITORIES:	**Long-term value: 10*; 5** mg/m³ * total dust; ** respirable dust**
	OEL-NOVA SCOTIA:	**Long-term value: 10*; N.E.** mg/m³ * total dust; ** respirable dust**
	OEL-ONTARIO:	**Long-term value: 10*; N.E.** mg/m³ * total dust; ** respirable dust**
	OEL-SASKATCHEWAN:	**Long-term value: 10* mg/m³ * total dust; 20 mg/m³, 15-min avg.**
	OEL-YUKON TERRITORIES:	**Long-term value: 10* mg/m³ * total dust; 20 mg/m³, 15-min avg.**
	OEL-NEWFOUNDLAND, LABRADOR:	**Long-term value: 10*; N.E.** mg/m³ * total dust; ** respirable dust STEL: 10 A mg/m³**
EU REACH registration status:	**01-2119489379-17-xxxx**	
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

Date of the latest revision of the safety data sheet **09/01/2022**

Abbreviations and acronyms:
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

(Contd. on page 9)

Safety Data Sheet
according to HPR, Schedule 1

Printing date 09/02/2022 **Version 4.00** **Reviewed on 09/01/2022**

Trade name: KRONOS Titanium Dioxide (purified grades)

(Contd. of page 8)

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

*** Data compared to the previous version altered.**

*** Data altered compared to the previous version .**