

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

Printing date 07/16/2026

Version 14.00

Reviewed on 04/27/2026

1 Identification

Product identifier
Trade name:
KRONOS Titanium dioxide
Product Codes
**KRONOS 1000; KRONOS 1002; KRONOS 2044;
KRONOS 2078; KRONOS 2190; KRONOS 2211;
KRONOS 2220; KRONOS 2222; KRONOS 2230;
KRONOS 2233; KRONOS 2350; KRONOS 2500;
KRONOS 2660; KRONOS 2710; KRONOS 2760;
KRONOS 2810;
KRONOS 1171, KRONOS 2071; KRONOS 2171**
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
Cosmetics (KRONOS 1171, KRONOS 2071, KRONOS 2171)
Pharmaceuticals (KRONOS 1171)
Food (KRONOS 1171)**
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
Varennnes QC, J3X 1T4**
Emergency telephone number:
**+1-888-226-8832 (CANUTEC) for transportation emergencies only
(Canada and US)
+1-800-424-9300 (CHEMTREC) for transportation emergencies only
(Canada and US)
+1-800-866-5600 for other product information (8:00AM – 5:00PM US
Central Time)**

2 Hazard identification

Classification of the substance or mixture
The product 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 required
Precautionary statements
Not applicable
Other hazards
Dust load

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3 Composition/Information on ingredients

Chemical characterization: Mixtures

Dangerous components: Not applicable

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.

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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.

7 Handling and storage

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, 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 irritants but as with all fine powders can absorb moisture and natural oil from the surface of

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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:

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.

Eye protection:

Safety glasses

Body protection:

Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Physical state

Solid.

Color:

White

Odor:

Odorless

Odor threshold:

Not relevant

Melting point/Melting range:

>1800°C

Boiling point/Boiling range:

Not relevant

Flammability:

Product is not flammable.

Flash point:

Not applicable

Auto igniting:

Not applicable

pH-value at 20°C:

5.2 - 8.5

Viscosity:
dynamic:

Not applicable

Solubility in / Miscibility with
Water:

Insoluble

Partition coefficient (n-octanol/water):

Not applicable

Vapor pressure:
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:

ca. 500-900 kg/m³ (4.2 - 7.5 lbs/U.S. gal.)

Vapor density

Not applicable

Other information
Appearance:
Form:

Powder

Important information on protection of health and environment, and on safety.

Danger of explosion:

Product is not explosive.

Evaporation rate

Not applicable.

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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.

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)

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Carcinogenic categories
IARC (International Agency for Research on Cancer)
CAS: 13463-67-7 Titanium dioxide: 2B
NTP (National Toxicology Program)

None of the ingredients is 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 (Hyalomma 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.

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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/TDG, ADR, ADN, IMDG, IATA

Class

Not applicable

Packing group

DOT/TDG, ADR, IMDG, IATA

Not applicable

Environmental hazards

Not an environmentally hazardous substance.

Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

Not applicable

Special precautions for user

Not applicable

15 Regulatory information

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

Limitation of use

Cosmetics: Only KRONOS 1171, KRONOS 2071, and KRONOS 2171 are approved for this use.

KRONOS 1171: Not authorised for use as a food or feed additive in the European Union and Switzerland

TSCA and Canada DSL Status:

All components have the value ACTIVE.

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

EPA (Environmental Protection Agency)

None of the ingredients is listed.

Additional Occupational

Exposure Limit Values:

OEL-NEW BRUNSWICK:

OEL-ALBERTA:
mg/m³

OEL-NW TERRITORIES:
m³

TWA: 1997 ACGIH TLV mg/m³

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

* total dust; ** respirable dust

Long-term value: 10*; 5** mg/

* total dust; ** respirable dust

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OEL-NOVA SCOTIA: mg/m ³	Long-term value: 10*; N.E.** * total dust; ** respirable dust
OEL-ONTARIO: mg/m ³	Long-term value: 10*; N.E.** * total dust; ** respirable dust
OEL-SASKATCHEWAN:	Long-term value: 10* mg/m ³ * total dust; 20 mg/m ³ , 15-min avg.
OEL-YUKON TERRITORIES:	Long-term value: 10* mg/m ³ * total dust; 20 mg/m ³ , 15-min avg.
OEL-NEWFOUNDLAND, LABRADOR: mg/m ³	Long-term value: 10*; N.E.** * total dust; ** respirable dust STEL: 10 A mg/m ³

16 Other information

This information pertains solely to the identified product and includes our reliance on regulations in effect and information from third parties as of the date hereof. It remains the sole responsibility of the customer to determine the suitability of the product when used in specific processes and applications or combined with other materials and to ensure compliance with all relevant laws, regulations, and standards governing those uses. The provision of this information does not constitute a warranty, guarantee, or representation of any kind. No contractual obligations, either express or implied, are created between KRONOS and any recipient of this information.

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**Date of the latest revision of the
safety data sheet** 04/27/2026 / 13.00

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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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