Safety Data Sheet
acc. to OSHA HCS

Printing date 07/14/2026 **Version 14.00** **Reviewed on 07/14/2026**

1 Identification

Product identifier
Trade name: **KRONOS Titandioxid**
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**
Other means of identification
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)**

Uses advised against **For country-specific information, see Section 15.**

Details of the supplier of the safety data sheet

Manufacturer/Supplier: **KRONOS (US), Inc.
5430 LBJ Freeway, Suite 1700
Dallas, Tx 75240
+1 (972) 233-1700**

Emergency telephone number: **+1-800-424-9300 (CHEMTREC) for transportation emergencies only (US)
+1-800-866-5600 for other product information (8:00 AM – 5:00 PM, US central time)**

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2 Hazard(s) 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 applicable**

3 Composition/information on ingredients

Chemical characterization: Mixtures

Dangerous components:

CAS: 13463-67-7 Titanium dioxide **80 - 100%**
EINECS: 236-675-5

(Contd. on page 2)

(Contd. of page 1)

Non-hazardous components	Titanium dioxide CAS number: 13463-67-7 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.
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	Not required
Environmental precautions:	No special measures required.
Methods and material for containment and cleaning up:	Collect mechanically. Avoid formation of dust.

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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

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

ACGIH - TLV Long-term value: 10 TWA, mg/m³
respirable fraction 1mg/m³ TWA

OSHA - PEL Long-term value: 15* mg/m³
*total dust, 8 hr TWA

PEL Long-term value: 15* mg/m³
*total dust

REL See Pocket Guide App. A

TLV Long-term value: 0.2* 2.5** mg/m³
resp. fraction, *nanoscale,**finescale, A3

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 irritants 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.
Use a NIOSH-approved respirator for particulates with N95, P95, or R95 filter, or higher.
The respirator must be selected by a technically qualified individual.

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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.**
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 (>3,272°F)**
Boiling point/Boiling range:	**Not relevant**
Flammability:	**Product is not flammable.**
Flash point:	**Not applicable**
Auto igniting:	**Not applicable**
pH-value (100 g/l) at 20°C (68°F):	**5.2 - 8.5**
Viscosity:	
kinematic:	**Not applicable**
Solubility in / Miscibility with	
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 at 20°C (68°F):	**500-900 kg/m³**
Vapor density	**Not applicable**
Other information	
Appearance:	
Form:	**Powder**
Important information on protection of health and environment, and on safety.	
Ignition temperature:	**Not applicable**
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

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 available
Inhalative	NOAEC	10 mg/m³ (rat) (90 d)

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Additional toxicological information:

Tumors produced in rats on inhalation of very high concentrations are
believed to be the result of prolonged "lung overload" and are not considered to be relevant to man.
In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes into contact with the lung.
However, tests with other laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that may lead to lung cancer. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide.

Titanium dioxide 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)

All components have the value 3.
3: (not classifiable)

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

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)

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

Uncleaned packagings:
Recommendation: **Disposal must be made according to official regulations.**

14 Transport information

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

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

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Packing group	
DOT, ADR/RID/ADN, 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 relevant
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

SARA

Section 355 (Extremely hazardous substances): None of the ingredients is listed
All ingredients are listed.
Substance is not listed
Substance is listed

None of the ingredients is listed

Section 313 (Specific toxic chemical listings): None of the ingredients is listed
All ingredients are listed
Substance is not listed
Substance is listed

None of the ingredients is listed

Section 311 (TIER 1 notification)

None of the ingredients is listed.

TSCA and Canada DSL Status: None of the ingredients is listed
All ingredients are listed
Substance is not listed
Substance is listed
in compliance

CAS: 13463-67-7 Titanium dioxide

Hazardous Air Pollutants

None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer: None of the ingredients is listed
All ingredients are listed
Substance is not listed
Substance is listed

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Chemicals known to cause reproductive toxicity:
None of the ingredients is listed
All ingredients are listed
Substance is not listed
Substance is listed

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

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
This product is a "hazardous chemical" under the OSHA Hazard Communication Standard.

New Jersey Right-to-Know List:

All ingredients are listed.

New Jersey Special Hazardous Substance List:

None of the ingredients is listed.

Pennsylvania Right-to-Know List:

All ingredients are listed.

Pennsylvania Special Hazardous Substance List:

None of the ingredients is listed.

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)
Not a controlled product

Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value Notation established by ACGIH)

All components have the value A4.

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.

Department issuing SDS: Product Stewardship

Contact:
KRONOS (US), Inc.
5430 LBJ Freeway, Suite 1700
Dallas, Tx 75240
e-mail: SDS-NA@kronosww.com

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Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
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
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

Sources

REACH-Registration Dossier

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

Conformes to U.S. OSHA HCS 2024