Safety Data Sheet
acc. to OSHA HCS

Printing date 04/27/2026 **Version 14.00** **Reviewed on 04/27/2026**

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1 Identification

Product identifier
Trade name: **KRONOS Titanium dioxide**
Product Codes **KRONOS 1000; KRONOS 1002; KRONOS 2044; KRONOS 2073; 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) 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 (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)

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**

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

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

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 the skin during prolonged exposure. Prolonged exposure should be avoided by wearing suitable protective gloves and clothing.

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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.**
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 at 20°C (68°F):	**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**

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Important information on protection of health and environment, and on safety.
Danger of explosion: Product is not explosive.
Evaporation rate Not applicable.

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.

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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)

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.
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)

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.

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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, 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**
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 applicable**
Special precautions for user	**Not applicable**

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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

Section 313 (Specific toxic chemical listings): **Product contains traces of toxic chemicals subject to reporting requirements of 40 CFR 372:**

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CAS: 7439-92-1 Lead: <10 ppm

CAS: 7439-97-6 Mercury: <0.1 ppm

Section 311 (TIER 1 notification)

None of the ingredients is listed.

TSCA and Canada DSL Status:

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients is listed.

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
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.

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 Not classifiable as human carcinogen.

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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Trade name: KRONOS Titanium dioxide

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Abbreviations and acronyms:

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

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

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