Safety Data Sheet
acc. to OSHA HCS

Printing date 08/29/2023 **Version 2.00** **Reviewed on 08/16/2023**

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1 Identification

Product identifier
Trade name: **KRONOS 2171**

CAS Number: **13463-67-7**
EINECS Number: **236-675-5**
Relevant identified uses of the substance or mixture **White pigment for application in cosmetics**

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: **CHEMTREC: +1-800-424-9300 for transportation emergencies only (U.S.)**
KRONOS: +1-800-866-5600 for other product information (8:00 am – 5:00 pm, central time U.S.)

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: **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 **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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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**

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.**

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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

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.

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.

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9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:

Form:	**Powder**
Color:	**White**
Odor:	**Characteristic**
Odor threshold:	**Not determined.**
pH-value (100 g/l) at 20°C (68°F):	**5.5 - 7.0**
Melting point/Melting range:	**>1800°C (>3,272°F)**
Boiling point/Boiling range:	**No pertinentes**
Flash point:	**Not applicable**
Flammability (solid, gaseous):	**Product is not flammable.**
Auto igniting:	**Not applicable**
Ignition temperature:	**Not applicable**
Danger of explosion:	**Product is not explosive.**
Density at 20°C (68°F):	**4.2 g/cm³ (35.049 lbs/gal)**
Vapor density	**Not applicable.**
Evaporation rate	**Not applicable.**
Solubility in / Miscibility with	
Water:	**Insoluble**
Partition coefficient (n-octanol/water):	**Not determined.**
Viscosity:	
dynamic:	**Not applicable.**

Other information

No further relevant information available.

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.**

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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)

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

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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)

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)

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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	**Accumulation of the product is not to be expected.**
Mobility in soil	**The product 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**
Packing group	
DOT, ADR/RID/ADN, 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 applicable.**

15 Regulatory information

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

SARA
Section 355 (Extremely hazardous substances):

None of the ingredients is listed

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Section 313 (Specific toxic chemical listings):

None of the ingredients is listed

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.

Proposition 65

Chemicals known to cause cancer:

CAS: 13463-67-7 Titanium dioxide

Additional information: The listing is for titanium dioxide as "airborne, unbound particles of respirable size" and does not cover titanium dioxide when it remains within a product matrix.

Chemicals known to cause reproductive toxicity: None of the ingredients is listed

CERLCA/SUPERFUND (40 CFR 117, 302) Titanium dioxide is not cited

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) This product is not 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:

CAS: 13463-67-7 Titanium dioxide

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)

CAS: 13463-67-7 Titanium dioxide: A4 Not classifiable as human carcinogen

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

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Trade name: KRONOS 2171

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Date of preparation / last revision	**08/16/2023**
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.**	**Conformed to U.S. OSHA HCS 2012**