

Safety data sheet
according to UK REACH

Printing date 15.10.2025

Version number 10.00 (replaces version 9.00)

Revision: 15.10.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name: **KRONOS Titanium Dioxide (non-pigmentary)**
Product Codes **KRONOS 1020; KRONOS 3025; KRONOS 3900**

CAS Number: **13463-67-7**EC number: **236-675-5**

Downstream User Import
Notification (DUIN) **submitted**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses of the substance
or mixture **Additive for application in
Glass, vitreous enamels, ceramic products**

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: **KRONOS INTERNATIONAL, Inc.
Peschstrasse 5
51373 Leverkusen, Germany
Tel.: INT +49 214 356-0**

**EMERGENCY TELEPHONE
NUMBER:** **KRONOS INTERNATIONAL, Inc. (Germany)
Tel.: INT + 49 214 356-4444**

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification according to
Regulation (EC) No 1272/2008 **The substance is not classified, according to the GB CLP
regulation.**

2.2 Label elements

Labelling according to
Regulation (EC) No 1272/2008 **not applicable**
Hazard pictograms **not applicable**
Signal word **not applicable**
Hazard statements **not applicable**

2.3 Other hazards

Results of PBT and vPvB
assessment **The product is an inorganic substance and does not fulfill the
criteria for PBT and vPvB according to Annex XIII of UK REACH.**

**Determination of endocrine-
disrupting properties**

**The product does not contain any substances above the legal limits
that have endocrine disrupting properties according to UK REACH
Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or
Commission Delegated Regulation (EU) 2018/605.**

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SECTION 3: Composition/information on ingredients

3.1 Substances

CAS No. Designation:	13463-67-7 titanium dioxide
EC number:	236-675-5
Additional information:	Titanium dioxide without pigment properties (not a nanomaterial according to European Commission Recommendation 2022/C 229/01)

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	No special measures required.
After inhalation:	Supply fresh air; consult doctor in case of symptoms.
After skin contact:	Wash with water and soap and rinse thoroughly.
After eye contact:	Rinse opened eye for several minutes under running water. In case of persistent symptoms consult physician.
After swallowing:	No special measures required.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:	Use fire fighting measures that suit the environment. The product is not flammable.
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5.2 Special hazards arising from the substance or mixture

None

5.3 Advice for firefighters

Protective equipment:	Use protective measures that suit the hazard conditions.
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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

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6.2 Environmental precautions: No special measures required.

6.3 Methods and material for containment and cleaning up: Collect mechanically.
Avoid causing dust.

6.4 Reference to other sections See Section 7 for information on safe handling
See Section 8 for information on personal protective equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Provide vacuum dust collection if dust is formed.
Information about protection against explosions and fires: No special measures required.
The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and containers: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Store under dry conditions.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with critical values that require monitoring at the workplace:

CAS: 13463-67-7 titanium dioxide

WEL Long-term value: 10* 4** mg/m³

*total inhalable **respirable

8.2 Exposure controls
Appropriate engineering controls No further data; see Section 7

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

The usual precautionary measures should be adhered to in handling chemicals.
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. EN149 / EN14387: Filter type FFP2 / P2
Hand protection	Requirements according to EN 374 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 does not only depend on the material, but also on further marks of quality and varies 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.
Eyeface protection	Safety glasses
Body protection:	Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state	Solid
Colour:	White
Smell:	Odourless
Odour threshold:	Not relevant
Melting point/freezing point:	>1800°C
Boiling point or initial boiling point and boiling range	Not determined
Flammability	Product is not flammable.
Flash point:	Not applicable
Auto-ignition temperature:	Not applicable
pH (100 g/l) at 20°C	7 - 10
Viscosity:	
dynamic:	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble
Partition coefficient n-octanol/water (log value)	Not applicable
Density and/or relative density	
Density:	20°C Anatase 3,9 g/cm ³ Rutile 4,2 g/cm ³
Apparent density at 20°C:	350 - 900 kg/m ³

9.2 Other information

Appearance:	
Form:	Powder
Important information on protection of health and environment, and on safety.	
Explosive properties:	Product is not explosive.

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Evaporation rate

Not applicable.

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Information with regard to physical hazard
classes

not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

The substance is stable under normal use conditions.

10.2 Chemical stability

Thermal decomposition /
Conditions to be avoided:

No decomposition under normal use conditions

10.3 Possibility of hazardous reactions

No dangerous reactions known

10.4 Conditions to avoid

No further data; see Section 7

10.5 Incompatible materials:

No further data; see Section 7

10.6 Hazardous decomposition products:

No dangerous decomposition products known

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

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:

Skin corrosion/irritation

OECD 404:

No irritant effect

Serious eye damage/irritation

OECD 405:

No irritant effect

Like any foreign body, particles (dust) can cause mechanical irritation.

Respiratory or skin sensitisation OECD 406, OECD 429

No sensitizing effects.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

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Aspiration hazard

Based on available data, the classification criteria are not met.

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)

Toxicokinetics, metabolism and distribution

No substantial accumulation of titanium was observed in tissues following oral administration of titanium dioxide.
Dermal absorption can be considered negligible, as titanium dioxide has been shown not to penetrate human skin to any appreciable degree.

11.2 Information on other hazards

Endocrine disrupting properties The product does not contain any substances above the legal limits that have endocrine disrupting properties according to UK REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

SECTION 12: Ecological information
12.1 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 (*Hyaella azteca*)
(semi-static, ASTM 1706)

**12.2 Persistence and
degradability**

Not relevant for inorganic substances.

12.3 Bioaccumulative potential

Does not accumulate in organisms

12.4 Mobility in soil

The substance is immobile in soil.

**12.5 Results of PBT and vPvB
assessment**

The product is an inorganic substance and does not fulfill the
criteria for PBT and vPvB according to Annex XIII of UK REACH.

PBT:

Not applicable

vPvB:

Not applicable

**12.6 Endocrine disrupting
properties**

The product does not contain any substances above the legal limits
that have endocrine disrupting properties according to UK REACH
Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or
Commission Delegated Regulation (EU) 2018/605.

12.7 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations
13.1 Waste treatment methods

European waste catalogue

Waste code number according to origin of waste

Uncleaned packagings:

Recommendation:

Disposal according to official regulations

SECTION 14: Transport information
14.1 UN number or ID number

ADR/RID/ADN, ADN, IMDG, IATA

not applicable

14.2 UN proper shipping name

ADR/RID/ADN, ADN, IMDG, IATA

not applicable

14.3 Transport hazard class(es)

ADR/RID/ADN, ADN, IMDG, IATA

Class

not applicable

14.4 Packing group

ADR/RID/ADN, IMDG, IATA

not applicable

14.5 Environmental hazards

Not applicable.

14.6 Special precautions for user

Not applicable

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14.7 Maritime transport in bulk according to IMO instruments

Not applicable

Transport/Additional information:

Not dangerous according to transport specifications.

SECTION 15: Regulatory information

15.2 Chemical Safety Assessment

Substances of very high concern (SVHC) according to REACH, Article 57

The product is not listed as SVHC, it does not contain any substances of very high concern.

Chemical safety assessment: A Chemical Safety Assessment has been carried out.

SECTION 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 data sheet: Global Quality Management

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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
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.

Amended according to Regulation (EU) no 2020/878

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