

Material Safety Data Sheet

According to regulation (EC) No. 1907/2006 (REACH)



PIGMENTE

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46200 Titanium White Rutile

Printed: 04.03.2013

Revised edition: 15.04.2012

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier

Product Name: Titanium White Rutile

Article No.: 46200

1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:

Coloring agent, pigment

Uses advised against:

1.3. Details of the Supplier of the Safety Data Sheet

Company: Kremer Pigmente GmbH & Co. KG

Address: Hauptstr. 41-47, 88317 Aichstetten, Germany

Tel./Fax.: Tel +49 7565 914480, Fax +49 7565 1606

Internet: www.kremer-pigmente.de - info@kremer-pigmente.de

E-Mail: kremer@kremer-pigmente.de

1.4. Emergency No.

Emergency No.: +49 7565 914480 (Mon-Fri 8:00 - 17:00)

2. Hazards Identification

2.1. Classification of the Substance or Mixture

*Classification according to EC
Regulation 1272/2008*

This product does not require classification and labelling as hazardous according to CLP/GHS.

*Classification according to EC
Regulation No. 67/548 or No. 1999/45*

The material is not subject to classification according to EC lists.

Possible Environmental Effects:

2.2. Label Elements

*Classification according to EC
Regulation 1272/2008*

This product does not require classification and labelling as hazardous according to CLP/GHS.

Hazard designation:

Signal word:

Hazard designation:

Safety designation:

Hazardous components for labelling:

2.3. Other Hazards

After skin contact: can cause mechanical irritation or drying of the skin.

After eye contact: dust can lead to mechanical irritation.

After inhalation: can cause irritation of nose, throat and lung.

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3. Composition/Information on Ingredients

3.1. Substance

This product is a substance: see details under 3.2.

3.2. Mixture

Not applicable.

Chemical Characterization: Titanium dioxide pigment.

Hazardous Ingredients:

Titanium dioxide (REACH 01-2119489379-17-0016)	80-99 %	CAS-Nr: 13463-67-7 EINECS-Nr: 236-675-5 EC-Nr:
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Additional information:

4. First Aid Measures

4.1. Description of the First Aid Measures

General information:

Seek medical attention in case of complaints.

After inhalation:

Supply fresh air. If required give artificial respiration. Keep patient warm.

After skin contact:

Wash with soap and rinse with plenty of water.

After eye contact:

Rinse open eyes with plenty of water for at least 15 minutes.

After ingestion:

*Rinse mouth with plenty of water.
If symptoms persist consult physician.*

4.2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:

Irritating.

Effects:

No further information available.

4.3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:

No further information available.

5. Fire-Fighting Measures

5.1. Extinguishing Media

Suitable extinguishing media:

*Product itself does not burn.
Use extinguishing media for surrounding fire.*

Unsuitable extinguishing media:

None known.

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5.2. Special Hazards arising from the Substance or Mixture

Special hazards:

No special hazards.

5.3. Advice for Firefighters

Protective equipment:

No special measures required.

Further information:

Not combustible.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Do not inhale dust.

6.2. Environmental Precautions

Environmental precautions:

Prevent contamination of soil, drains and surface waters.

6.3. Methods and Material for Containment and Cleaning Up

Methods and material:

Take up mechanically and collect in suitable containers for disposal. Avoid dust formation.

Rinse with lots of water.

6.4. Reference to other Sections:

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7. Handling and Storage

7.1. Precautions for Safe Handling

Instructions on safe handling:

Do not swallow or inhale.

Hygienic measures:

No further measures, see Section 8.

7.2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store in tightly sealed containers in a dry room.

Requirements for storage areas and containers:

No special measures necessary.

Information on fire and explosion protection:

No special measures required.

Storage class (VCI):

Further Information:

7.3. Specific End Use(s)

Further information:

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No information available.

8. Exposure Controls/Personal Protection

8.1. Parameters to be Controlled

Parameters to be controlled (DE):

*Titanium dioxide, CAS 13463-67-7
TRGS 900
ELV: 10 mg/m³ air-borne fraction (general dust limit)
TLV: 3 mg/m³ air-borne fraction (general dust limit)
Peak limit category 2
Category II: substances with a resorptive effect.*

Parameters to be controlled (EC):

Derived No-Effect Level:

10 mg/m³ (worker, inhalation, chronic effect)

Predicted No-Effect Concentration:

*Fresh water: 0.127 mg/l
Seawater: \geq 1 mg/l
Water: 0.61 mg/l
Fresh water sediment: \geq 1000 mg/kg
Seawater sediment: \geq 100 mg/kg
Soil: 100 mg/kg
Sewage treatment system (STP): \geq 100 mg/kg*

Additional Information:

8.2. Exposure Controls

Technical protective measures:

Ensure adequate ventilation, especially in confined areas.

Personal Protection:

General protective measures:

Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

Respiratory protection:

Required in case of insufficient ventilation.

Hand protection:

Protective gloves

Protective glove material:

Eye protection:

Safety glasses with protective shields (EN 166).

Body protection:

Not required.

Environmental precautions:

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Form:

powder

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<i>Color:</i>	<i>white</i>
<i>Odor:</i>	<i>odorless</i>
<i>Odor threshold:</i>	<i>No information available.</i>
<i>pH-Value:</i>	<i>not applicable</i>
<i>Melting temperature:</i>	<i>1843°C</i>
<i>Boiling temperature:</i>	<i>3000°C</i>
<i>Flash point:</i>	<i>not flammable</i>
<i>Evaporation rate:</i>	<i>not applicable</i>
<i>Flammability (solid, gas):</i>	<i>non-combustible</i>
<i>Upper explosion limit:</i>	<i>no information available</i>
<i>Lower explosion limit:</i>	<i>no information available</i>
<i>Vapor pressure:</i>	<i>not applicable</i>
<i>Vapor density:</i>	<i>No information available.</i>
<i>Density:</i>	<i>3,8 - 4,3 g/cm³</i>
<i>Solubility in water:</i>	<i>insoluble</i>
<i>Coefficient of variation (n-Octanol/Water):</i>	<i>no information available</i>
<i>Auto-ignition temperature:</i>	<i>No information available.</i>
<i>Decomposition temperature:</i>	<i>No data available.</i>
<i>Viscosity, dynamic:</i>	<i>not available</i>
<i>Explosive properties:</i>	<i>not applicable</i>
<i>Oxidizing properties:</i>	<i>No information available.</i>
<i>Bulk density:</i>	

9.2. Further Information

Solubility in solvents:

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Viscosity, kinematic

Burning class:

Solvent content:

Solid content:

Particle size:

Other information:

No further information.

10. Stability and Reactivity

10.1. Reactivity

No decomposition if used according to specifications.

10.2. Chemical Stability

Stable if used according to specifications.

10.3. Possibility of Hazardous Reactions

This material is considered to be stable.

10.4. Conditions to Avoid

Conditions to avoid:

No information available.

Thermal decomposition:

No data available.

10.5. Incompatible Materials

No information available.

10.6. Hazardous Decomposition Products

No information available.

10.7. Further Information

11. Toxicological Information

11. 1. Information on Toxicological Effects

Acute Toxicity

LD50, oral: > 5000 mg/kg (rat)

LD50, dermal:

LC50, inhalation: > 6.82 mg/l (4h; rat)

Primary effects

Irritant effect on skin:

Non irritating (rabbit)

Irritant effect on eyes:

Non-irritating to eyes (rabbit)

Inhalation:

Ingestion:

Sensitization:

Not sensitizing (mouse).

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No sensitizing effect (guinea pig).

Mutagenicity:

No mutagenic effects observed.

Reproductive toxicity:

No data available.

Cancerogenity:

Product is not cancerogenic.

Teratogenicity:

No information available.

Specific target organ toxicity (STOT):

Repeated exposure: no toxicological effects.

Additional toxicological information:

Inhalation: Long-term overexposure can irritate the respiratory tract.

After skin contact: dust can cause mechanical irritation or drying of the skin.

Eye contact: dust particles can cause mechanical irritation.

In lifelong animal studies rats were exposed to 10, 50 and 250 mg/m³ respirable TiO₃ over a period of 2 years. A slight fibrosis in the lungs was observed at the exposed values of 50 and 250 mg/m³. Microscopic lung tumors were also observed in 13 % of the rats exposed to 250 mg/m³, an exposure level that caused lung overloading and impairment of rat lungs clearance mechanisms.

In further studies, these tumors were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance to humans. The pulmonary inflammatory response to TiO₂ particles exposure was also found to be much more severe in rats than in other rodent species.

In February 2006, the IARC has re-evaluated Titanium Dioxide pertaining to Group 2B: "Possibly carcinogenic to humans", based upon inadequate evidence in humans and sufficient evidence in experimental animals for the carcinogenicity of titanium dioxide. IARC evaluation guidelines consider the generation of tumors, in 2 different studies within the same animal species, to be adequate criteria for an assessment of sufficient evidence.

The conclusions of several epidemiology studies on over 20000 TiO₂ industrial workers in Europe and the USA did not suggest a cancerogenic effect of TiO₂ dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with the exposure to TiO₂ dust.

Based on all available study results, DuPont scientists conclude that titanium dioxide will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.

12. Ecological Information

12.1. Aquatic Toxicity

Fish toxicity:

LC50: > 1000 mg/l (96h, Pimephales promelas)

Daphnia toxicity:

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EC50: > 1000 mg/l (48h, Daphnia magna)

Bacteria toxicity:

not determined

Algae toxicity:

EC50: 61 mg/l (72h; Pseudokirchneriella subcapitata)

12. 2. Persistency and Degradability

Not readily biodegradable.

12. 3. Bioaccumulation

No information available.

12. 4. Mobility

No information available.

12. 5. Results of PBT- und vPvP Assessment

Not classified as PBT substance / Not classified as a vPvB substance.

12. 6. Other Adverse Effects

Water hazard class:

Not hazardous.

Behaviour in sewage systems:

Further ecological effects:

No special effects or hazards known.

AOX Value:

13. Disposal Considerations

13. 1. Waste Treatment Methods

Product:

Must be treated as toxic waste according to local laws and regulations.

European Waste Code (EWC):

Uncleaned packaging:

Uncontaminated packaging may be recycled.

Waste Code No.:

14. Transport Information

14. 1. UN Number

14. 2. UN Proper Shipping Name

ADR/RID:

No hazardous goods according to ADR (land transportation).

IMDG/IATA:

No hazardous goods according to IMDG.

14. 3. Transport Hazard Classes

ADR Class:

not applicable

Hazard no.:

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Classification code:

Tunnel no.:

IMDG Class (sea):

Hazard no.:

EmS No.:

IATA Class:

Hazard no.:

14. 4. Packaging Group

ADR/RID:

not applicable

IMDG:

IATA:

14. 5. Environmental Hazards

14. 6. Special Precautions for User

Not classified as a dangerous good under transport regulations.

14. 7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code

14. 8. Further Information

15. Regulatory Information

15. 1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

0, not hazardous (self-assessment)

Local regulations on chemical accidents:

Employment restrictions:

Restriction and prohibition of application:

Restricted to professional users.

Technical instructions on air quality:

15. 2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this product.

15. 3. Further Information

EINECS (EU), TSCA (US), AICS (AUS), DSL (CA), PICCS (PH), ENCS (JP), KECI (KR), INV (CN)

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65: WARNING! This product contains a chemical known to the State of California to cause cancer. The listing of titanium dioxide is for "airborne, unbound particles of respirable size." The listing is not applicable to titanium dioxide when it remains bound within a product matrix.

California Prop. 65: WARNING! This product contains a chemical

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known to the State of California to cause cancer. The listing of titanium dioxide is for "airborne, unbound particles of respirable size." The listing is not applicable to titanium dioxide when it remains bound within a product matrix.

PA Right to Know Regulated Chemical(s): Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1 % or more (0.01% for Special Hazardous Substances): Titanium dioxide, Silicon dioxide, amorphous
Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Titanium dioxide, Silicon dioxide, amorphous

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.