

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product Identifier**

Product name	TIONA® 288
Synonyms	Titanium dioxide
REACH registration number	01-2119489379-17-XXXX
EC No	236-675-5
CAS No	13463-67-7

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

Recommended Use	Pigment
Uses advised against	For use in industrial installations only

1.3. Details of the supplier of the safety data sheet

<u>Importer</u>	Cristal Pigment UK Ltd. P.O. Box 26, Grimsby, N.E. Lincs. UK DN41 8 DP tele: +44.1469.571000 fax: +44.1469.553015
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<u>Business Contact</u>	Cristal Belgium bvba Brielen 9, 2830 Willebroek Belgium tele: +32.3.860.4800 fax: +32.3.860.4801
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For further information, please contact

E-mail address	Regulatory.query@cristal.com
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1.4. Emergency telephone number

Emergency telephone	24 Hour Emergency Phone Number SGS (Europe): + 32 (0)9-575-5555
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Emergency telephone - §45 - (EC)1272/2008	
Europe	112

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture**Classification according to Regulation (EC) No. 1272/2008**

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. However a safety data sheet is being supplied for it on request as it contains a component for which there is a Community workplace exposure limit

Not dangerous

2.2. Label Elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal Word None

2.3. Other Hazards

• None known

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	EC No	CAS No	weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Titanium dioxide	236-675-5	13463-67-7	>80%	-	01-2119489379-17-XX XX

Full text of R-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water.
Eye Contact	Wash with plenty of water. If symptoms persist, call a physician.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms None known.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	None known based on information supplied.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
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5.3. Advice for firefighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
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Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with eyes and skin. Use personal protective equipment as required.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental Precautions	See Section 12 for additional Ecological Information.
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6.3. Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

Reference to other sections	See section 13 for more information.
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Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Take precautionary measures against static discharges.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.
Packaging materials	Product may be packaged in normal commercial packaging; paper or plastic material.

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical name Titanium dioxide 13463-67-7	Belgium -	United Kingdom STEL: 30 mg/m ³ STEL: 12 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³	France TWA: 10 mg/m ³ (a)	Spain TWA: 10 mg/m ³
Chemical name Titanium dioxide 13463-67-7	Germany Skin	Italy -	Netherlands -	Greece -
Chemical name Titanium dioxide 13463-67-7	Czech Republic -	Denmark TWA: 6 mg/m ³	Austria STEL 10 mg/m ³ TWA: 5 mg/m ³	Switzerland TWA: 3 mg/m ³
Chemical name Titanium dioxide 13463-67-7	Poland STEL: 30 mg/m ³ TWA: 10.0 mg/m ³	Norway TWA: 5 mg/m ³ STEL: 5 mg/m ³	Ireland TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	Sweden 5 mg/m ³ LLV (total dust)

Derived No Effect Level (DNEL)

Inhalation 10 mg/m³

Predicted No Effect Concentration (PNEC)

Freshwater = 0.127 mg/L
 Freshwater sediment > 1000 mg/kg
 Marine water >1 mg/L
 Marine sediment >100 mg/kg

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection Wear safety glasses with side shields (or goggles)
Hand protection Wear protective gloves.
Skin and Body Protection Suitable protective clothing.
Respiratory protection In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State solid
Appearance Powder
Odor Odorless
Color white
Odor threshold

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6-10	10g/100ml
Melting point/freezing point	1830 °C	Melting point / melting range
Boiling point / boiling range		No data available
Flash Point		Not applicable
Evaporation Rate		Not applicable
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		
Upper flammability limit:		Not applicable
Lower flammability limit:		Not applicable
Vapor pressure		Not applicable
Vapor Density		Not applicable
Specific gravity	4.0-4.2	-
Water solubility	Insoluble in water	-
Solubility(ies)		No data available
Partition coefficient		No data available
Autoignition Temperature		Not applicable
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

9.2. Other information

VOC content (%) None

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity None known

10.2. Chemical stability

Stability Stable under recommended storage conditions.

Sensitivity to Mechanical Impact Not impact sensitive.

Sensitivity to Static Discharge Not sensitive.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing

10.4. Conditions to avoid

Conditions to Avoid None known.

10.5. Incompatible materials

Incompatible Materials None

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

Inhalation As a nuisance dust, prolonged exposures above recommended levels may cause adverse effects on the lung.

Eye Contact	No data available.
Skin contact	Titanium dioxide does not penetrate either intact or abraded human skin.
Ingestion	No data available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide	> 5000 mg/kg (Rat)	-	> 6,82 mg/L (Rat) 4 h

Skin corrosion/irritation	Titanium dioxide was not classifiable as a skin corrosive or irritant based on in vivo test results for titanium dioxide submitted in the European Union (REACH) joint submission registration dossier for the substance.
Serious eye damage/eye irritation	Titanium dioxide was not classifiable as an eye irritant based on in vivo test results for titanium dioxide submitted in the European Union (REACH) joint submission registration dossier for the substance.
Sensitization	No information available.
Germ Cell Mutagenicity	Titanium dioxide was negative when tested in vitro in bacterial reverse mutation assays and in mammalian cell gene mutation and clastogenicity assays as well as when tested in vivo.
Carcinogenicity	Titanium dioxide is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. However, other laboratory animals such as mice and hamsters did not develop lung tumors under similar testing with titanium dioxide. Furthermore, human epidemiology studies do not suggest an association between occupational exposure to titanium dioxide and risk for cancer.
Reproductive Toxicity	Titanium dioxide did not cause reproductive effects in experimental animals.
STOT - single exposure	Titanium dioxide is not classifiable based on a lack of significant and/or severe toxic effects in humans or in experimental animals following acute exposures.
STOT - repeated exposure	Repeated inhalation exposures in rats to poorly soluble dusts such as titanium dioxide lead to a pattern of pulmonary effects including inflammation and fibrosis that are not observed in other rodent species, nonhuman primates, or humans under similar conditions. Therefore, titanium dioxide is not classifiable for repeated exposure.
Aspiration Hazard	Not applicable.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Titanium dioxide is of low acute aquatic toxicity.

12.2. Persistence and degradability

Persistence and degradability Not readily biodegradable. Persistent substance with a half life of more than 60 days.

12.3. Bioaccumulative potential

Bioaccumulation Material does not bioaccumulate.

12.4. Mobility in soil

Mobility in soil Not mobile.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

Other adverse effects No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Improper disposal or reuse of this container may be dangerous and illegal.

Waste codes / waste designations according to List of Wastes / AVV Waste codes should be assigned by the user based on the application for which the product was used

Section 14: TRANSPORT INFORMATION

IMDG

Proper Shipping Name Not regulated

RID

ADR

Proper Shipping Name Not regulated

ICAO (air)

Proper Shipping Name Not regulated

IATA

Proper Shipping Name Not regulated

Section 15: REGULATORY INFORMATION

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

Water hazard class (WGK) slightly hazardous to water (WGK 1)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

A Chemical Safety Assessment is not required for this substance

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value		

Issue date 27-Jan-2015

Revision date 27-Jan-2015

Revision note Not applicable

Restrictions on use This product is a pigment intended for industrial use. This product is not intended for consumption, cosmetic, pharmaceutical or medical end use. Cristal will not knowingly sell product for use into these applications

Safety Data Sheet according to Regulation (EC) No. 830/2015 (REACH)

The REACH registration number(s) referred to in sections 1 & 3 cover the volumes of the substance(s) that are placed on the European Economic Area (EEA) market by Cristal entities. EEA importers of the substances in Cristal products may have their own registration obligations under Regulation (EC) 830/2015 (REACH).

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet