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	Issued on: 16 September, 2020
	Trade name: TITANIUM DIOXIDE
	Revised on: 21 September 2021
	Version: 1

1. Identification of the substance/mixture and of the company/undertaking

1.1.	Product identifier:	Titanium dioxide pigments (TMP grades) RC 813, RC 823, RC 833, RC 843, RC 893 REACH registration number : 01-2119489379-17-0014
1.2.	Relevant identified uses of the substance/mixture and uses advised against:	White pigment for application in paints, coatings, plastic material, paper, enamel, ceramics. For industrial use only.
1.3.	Details of the supplier of the safety data sheet (manufacturer, importer, only representative , downstream user or distributor):	
1.3.1.	Supplier name:	CINKARNA, Metallurgical and Chemical Industry CELJE, Inc.
1.3.2.	Supplier address and phone:	Kidričeva 26, 3001 CELJE, SLOVENIA, +386 3 427 60 00
1.3.3.	E-Mail (competent person):	boza.suk-lubej@cinkarna.si
1.4.	Emergency phone number:	In case of health risk, consult your doctor. Additional information during working hours from 7 a.m. to 3 p.m. : +386 3 427 65 81 +386 3 427 60 00

2. Hazards identification

2.1.	Classification of substance or mixture:	Regulation (EC) No 1272/2008: Not classified. Not a hazardous mixture.
2.2.	Label elements:	Not applicable. <u>Additional Labelling :</u> EUH210 Safety data sheet available on request. EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.
2.3.	Other hazards:	Mixture contains no persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative(vPvB) components at levels 0,1% or higher

3. Composition/information on ingredients

3.1.	Substances/ mixture: Mixture				
/3.2					
	Chemical name	CAS No. EC No.	REACH Registration No.	% w/w	Classification according to Regulation (EC) No 1272/2008 (CLP)
	Titanium dioxide	13463-67-7 236-675-5	01-2119489379-17-0014	80 – 99.5	

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Trimethylolpropane (TMP)	77-99-6 201-074-9	01-2119486799-10-XXXX	0,10 -0,45	Reprotox. 2 ; H361fd
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Additional Information: Please refer to section 16 of the SDS for full hazard statements.

Based upon reproductive toxicity study (OECD 443), the manufacturer and others of its consortium membership self-classified TMP as a suspected reproductive toxicant (Repr. Cat 2). The group also determined new Derived No Effect Levels (DNEL). The new suggested TMP DNEL for workers by inhalation is 3.3mg/m3(Long term, systemic)

4. First aid measures

4.1.	Description of first aid measures:	
	Inhalation:	Ensure fresh air. Seek medical help in case the symptoms do not disappear.
	Skin contact:	Rinse the skin with soap and water. Seek medical assistance if necessary.
	Eyes/mycosis contact:	Rinse with copious amount of water. Seek medical help if necessary.
	Ingestion:	Rinse the mouth with water. Seek medical assistance if necessary.
4.2	Most important symptoms and effects, acute and delayed:	Dust may irritate the respiratory tract or cause coughing.
4.3.	Indication of any immediate medical attention and special treatment needed:	Special care is not required.

5. Firefighting measures

5.1.	Extinguishing media	The product is not combustible.
	Appropriate media:	Use all extinguishing media that comply with the substances in the local environment.
	Inappropriate media:	Unknown.
5.2.	Specific hazards arising from the substance or mixture:	The product is not reactive, flammable or combustible.
5.3.	Advice for firefighters:	Additional protection is not required. Protection in accordance with other circumstances.

6. Accidental release measures

6.1.	Personal precautions protective equipment and emergency procedures	
6.1.1.	For non-emergency persons:	Avoid inhalation of the dust and contact with skin or eyes. If necessary, use protective equipment such as goggles and gloves.
6.1.2.	For emergency responders:	If necessary, use protective equipment such as goggles and gloves.
6.2.	Environmental precautions	Do not wash into surface water or sewage system.
6.3.	Methods and material for containment and cleaning up:	
6.3.1.	Appropriate spillage retaining techniques (fencing, covering drains, retaining procedures):	Mechanically collect and remove without producing dust. Wet product may cause slippery floor.
6.3.2.	Appropriate cleaning procedures	
	Neutralization techniques:	Product is neutral.
	Decontamination techniques:	Not required.
	Absorbent materials:	All inert absorbent material is appropriate.
	Cleaning techniques:	Carefully remove into the waste container (chapter 13).

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	Sucking techniques:	With vacuum cleaner and dust particle filter.
	Required equipment for retaining /cleaning:	Basic protective equipment such as goggles and gloves.
6.3.3.	Inappropriate cleaning or retaining techniques:	Cleaning with compressed air.
6.4.	Reference to other sections:	Section 8 (PPE), section 13 (disposal)
7. Handling and storage		
7.1.	Precautions for safe handling	
7.1.1.	Recommendations shall be specified to:	Prevent inhalation of dust.
	Safe handling of substance or mixture:	Use basic protective equipment such as goggles and gloves.
	Prevent handling of incompatible substances or mixtures:	Not required.
	Operations and conditions which create new risks by altering the properties of the substance or mixture, and to appropriate countermeasure:	Unknown.
	Reduce the release of the substance or mixture to the environment:	Do not wash into surface water or sewage system.
7.1.2.	General working hygiene (prohibited eating, drinking and smoking within working area; washing hands ...):	Rules of basic working hygiene apply.
7.2.	Conditions for safe storage, including any incompatibilities	
	Management of risk associated with:	
	- explosive atmospheres:	No danger.
	- corrosive substances:	No danger.
	- incompatible substances or mixtures:	No danger.
	- evaporation substances:	The product is not volatile.
	- potential ignition sources:	No danger.
	How to control the effects of	
	- weather conditions:	Store in closed and ventilated space.
	- ambient pressure:	Not required.
	- temperature:	Not required.
	- sunlight:	Not required.
	- humidity:	Store in closed and ventilated storage area. Long-term storage in humid spaces may influence some quality parameters.
	Securing integrity of substance or mixture by use of:	
	- stabilizers:	Not required.
	- antioxidants:	Not required.
	Other advice including:	
	- ventilation requirements;	Not required.
	- specific designs for storage rooms or vessels (including retention walls and ventilation):	Not required.
	- quantity limitations regarding storage conditions:	Not required.

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	- packaging compatibility:	Not required.
7.3.	Specific end use(s):	White pigment for application in paints, coatings, plastic material, paper, etc.

8. Exposure control/ personal protection

8.1.	Control parameters	
8.1.1.	-Limit values (MV):	Inhalable 10 mg/m ³ , respirable 1,25 mg/m ³ (general dust)
	PNEC:	Freshwater: > 0.127 mg/L Freshwater deposits: > 1000 mg/kg Sea water: > 0.62 mg/L Sea water deposits: > 100 mg/kg Soil: > 100 mg/kg Wastewater treatment plant: > 100 mg/kg
8.2.	Exposure control	
8.2.1.	Appropriate engineering controls:	Enable ventilation of working areas in order to keep the workers' exposure within limit values.
8.2.2.	Personal protective equipment:	
	- respiratory protection:	In case dusting occurs, use anti dust respirators FFP3 (EN 149).
	- skin protection:	Work clothing.
	- hand protection:	Gloves.
	- eye/face protection:	Protective goggles closed on the sides (EN 166).
	- heat radiation protection:	Not required.
	Other:	Washing hands before breaks and at the end of working hours.
8.2.3.	Environment exposure control:	

9. Physical and chemical properties

9.1.	Information on basic physical and chemical properties:	
	- Physical state:	Solid, crystalline
	- colour	White
	- odour:	Odourless
	pH:	Not applicable (solid substance).
	Melting/freezing point:	1843 °C
	Boiling point or initial boiling point and boiling range	3000 °C
	Flash point:	Does not flash.
	Auto-ignition temperature:	No data available
	flammability (solid, gas):	The product is not flammable.
	Lower and upper explosion limit:	The product is not flammable or explosive.

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	Vapour pressure:	Not applicable (solid substance).
	Density and/or relative density:	3,4 - 4,3 kg/dm ³
	Solubility:	The product is not soluble.
	partition coefficient: n-octanol-water:	Not applicable (solid substance).
	Decomposition temperature:	The product does not decompose.
	Kinematic viscosity:	Not applicable (solid substance).
	Relative vapour density:	Not applicable (solid substance).
	Particle characteristics	Amount of particles with an aerodynamic diameter $\leq 10\mu\text{m}$ in the products from Section 1.1 is below 1% according to method EN 15051-2; see also Section 11.1 carcinogenicity.
9.2.	Other information:	
9.2.1	Information on physical hazard classes	
	-Explosives:	Not applicable
	- Flammable gases:	Not applicable
	- Aerosols:	Not applicable
	- Oxidizing gases:	Not applicable
	- Flammable liquids:	Not applicable
	- Flammable solids:	Not applicable
	- Corrosive to metals:	Not applicable
9.2.2	Other safety-related parameters:	Not applicable
10. Stability and reactivity		
10.1.	Reactivity:	The product is not reactive.
10.2.	Chemical stability:	The product is stable under normal conditions
10.3.	Possible hazardous reactions:	No danger.
10.4.	Conditions to avoid:	Unknown.
10.5.	Incompatible materials:	Unknown.
10.6.	Hazardous decomposition products:	No dangerous decomposition known.
11. Toxicological data		
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008	
	- Acute toxicity:	No classification Acute oral toxicity: Titanium dioxide: LD 50/rat > 5000 mg/kg Trimethylolpropane (TMP): LD 50/rat > 14000 mg/kg Acute oral toxicity by inhalation: Titanium dioxide :LD 50/ 4h rat > 6,82 mg/l Trimethylolpropane (TMP): LD 50/ 4h rat > 0,29mg/l
	- Skin corrosion/irritation:	Does not cause skin irritation.
	- Serious eye damage/irritation:	Does not cause eye irritation or is slightly irritating to eyes.
	- Respiratory or skin sensitization:	Inhalation of dust may cause nose, throat or lung irritation.

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		If not removed in time, it can cause irritation of the mucous membrane. When ingested, it does not have harmful effects.
	- Germ cell mutagenicity:	Tests for bacterial cultures and mammal cell cultures did not show any mutagenic effects.
	- Carcinogenicity:	Not classified based on available information. Remarks: According to commission Regulation (EU) 2020/217 TiO ₂ to be classified must be in powder form and contain 1% or more particles with aerodynamic diameter ≤10µm. Data from testing products from section 1.1 with standard method EN 15051-2 shows classification is no needed.
	- Toxicity for reproduction:	It is not toxic for reproduction.
	- STOT – single exposure:	Unknown.
	- STOT – repeated exposure:	Unknown.
	- Aspiration hazard:	Inhalation of dust may cause nose, throat or lung irritation.
	- Endocrine disrupting properties	None of the ingredients is listed.

12. Ecological information

12.1.	Toxicity:	Toxicity for fish: CAS:13463-67-7 titanium dioxide LC50 / 96 h / Pimephales promelas (fathead minnow): > 1000 mg/l LC50 / 96 h / Alburnus alburnus : > 1000 mg/l Toxicity for aquatic organisms: CAS:13463-67-7 titanium dioxide EC50 / 72 h / Pseudokirchneriella subcapitata (green algae): 61 mg/l CAS: 77-99-6 trimethylolpropane EC50 / 72 h / Pseudokirchneriella subcapitata (green algae): >1000 mg/l Toxicity for aquatic invertebrates: CAS:13463-67-7 titanium dioxide EC50 / 48 h / Daphnia magna (water flea): > 1000 mg/l CAS: 77-99-6 trimethylolpropane EC50 / 48 h / Daphnia magna: = 13,000 mg/l
12.2.	Persistence and degradability:	The product is bio non-degradable and insoluble in water.
12.3.	Bioaccumulative potential:	The product does not accumulate in organisms.
12.4.	Mobility in soil:	Unknown.
12.5.	Results of PBT and vPvB assessment:	Mixture contains no persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative(vPvB) components at levels 0,1% or higher
12.6.	Endocrine disrupting properties:	Mixture does not contain components considered to have endocrine disrupting properties.
12.7.	Other adversative effects:	Unknown.

13. Disposal considerations

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13.1.	Waste treatment methods:	Disposal and removal in accordance with local and state regulations.
14. Transport information		
	ADR, RID, AND, IMDG, ICAO-TI/IATA-DGR	According to international transport law, the product is not labelled as hazardous.
14.1.	UN number or ID number:	According to international transport law, the product is not labelled as hazardous.
14.2.	UN proper shipping name:	Titanium dioxide.
14.3.	Transport hazard class(es):	Not required.
14.4.	Packaging group:	Not restricted.
14.5.	Environmental hazards:	According to international transport law, the product is not labelled as hazardous.
14.6.	Special precautions for user:	Not required.
14.7.	Maritime transport in bulk according to IMO instruments:	Not restricted.
15. Regulatory information		
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture:	The products are not listed as SVHC, it does not contain any substances of very high concern.
15.2.	Chemical safety assessment:	Chemical safety assessment has been carried out.
16. Other information		
	Amendments made in the revised edition:	Safety data sheet is amended in all sections in order to harmonize with applicable legislation.
	List of relevant, hazard statements, safety phrases and/or precautionary statements. Write out the full text of any statement which are not written out in full under Sections 2 to 15:	H361f Suspected of damaging fertility. H361d Suspected of damaging unborn child.
	in the case of mixtures, an indication of which of the methods of evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 was used for the purpose of classification:	Trimethylolpropane (TMP): based on results of reproductive toxicity study by TMP supplier who has self-classified TMP as suspected reproductive toxicant (Rep.Tox Cat2) H361f and H361d As the level of TMP in product is below the threshold 3%, no classification of mixture in the EU is required.
	Training of personnel:	In accordance with the law on safety and health at work.
	Key literature references and sources for data:	Official Gazette of the Republic of Slovenia no.: 110/03, 16/08, 43/11, 35/05, 54/07, 70/08, 88/08, 126/08, 84/06, 106/06, 110/07, 34/08. Regulation (EC) no.: 1907/2006, 1272/2008, 453/2010, 23/2008, 56/2010, 2015/830
	A key or legend to abbreviation and acronyms used in the safety data sheet:	PBT – persistent, bio accumulative and toxic vPvB – very persistent and very bio accumulative STOT – specific target organ toxicity DNEL – derived no effect levels PNEC – predicted no effect concentration ADR – European agreement concerning the international carriage of dangerous goods by road RID – International rule for transport of dangerous substances by

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		railway ADN – European agreement concerning the International carriage of dangerous goods by inland waterways IMDG – International maritime dangerous goods code ICAO-TI – Technical instructions for the safe transport of dangerous goods by air IATA – International air transport association
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Data specified above are based on research and experience of the supplier at the time of compiling the present MSDS. The supplier may not assume responsibility in case the buyer/user should fail to use the product in accordance with the relevant suggestions and recommendations. No information contained in the present SMDS may release the buyer/user from liability to strictly follow any legal requirements regarding his business activities.