



SAFETY DATA SHEET	Page 1 of 6
	Date issued: January 3rd, 2000
Product designation: TITANIUM DIOXIDE	Date revised: January 29th, 2008
	Revised version No.: 8

1. Substance/material identification and data on the supplier:

1.1.	Substance/material identification: Tipi: R 1 Tipi: R 2 Tipi: R 3	Titanium dioxide RC 8 RC 82, RC 813, RC 823, RC 827, RC 833 RC 84, RC 86	Identification:
1.2.	Use of the substance:	Processing of pigment (dyes, enamels), coatings for paper	
1.3.	Supplier data (manufacturer, importer, distributor):		
1.3.1.	Supplier name:	CINKARNA CELJE, d.d.	PE: Titanium dioxide
1.3.2.	Supplier address:	Kidričeva 26, 3001 CELJE - SLOVENIJA	
1.3.3.	Contact person :	e-mail: dusanka.torkar@cinkarna.si	
1.3.4.	Emergency telephone:	+ 386 3 427 61 12 (Cinkarna Celje)	

2. Hazards identification:

2.1.	Classification of the substance/ preparation :	Not classified
2.2.	Physical / chemical hazard:	/
2.3.	Symptoms of exposure through respiration: - skin contact: - eye contact: - swallowing::	May cause irritation if inhaled. Long term inhalation over allowed concentration, may cause irritation. n.a. Prevent contact with eyes. n.a.
2.4.	Hazard to the environment:	Product is not classified as hazardous according to the EEC criteria.

3. Composition / information on ingredients:

3.1.	General designation:	Titanium dioxide
3.2.	Ingredients that contribute to the hazard:	

Product designation: Titanium dioxide

Chemical designation and formula	Registration number	Index number	CAS number	EC number	wt/vol/ % / marginal concentration	Hazard symbol	Warnings R
Titanium dioxide (TiO ₂)			13463-67-7	236-675-5	80 - 99 %		
Aluminum oxide Al ₂ O ₃			1344-28-1	215-691-6	0.2 - 5 %		
Amorphous silicon dioxide (SiO ₂)			7631-86-9	231-545-4	0 - 11 %		
Zirconium dioxide (ZrO ₂)			1314-23-4	215-227-2	0 - 0.9 %		
Organic components (C)			-	-	0 - 0.4 %		

4. First aid measures:

4.1.	General instructions:	/
4.2.	Inhalation:	Provide fresh air. In case of special symptoms, seek medical assistance. If not breathing, give artificial respiration.
4.3.	Skin contact:	Rinse skin with water and soap. Use protective cream. If needed, seek medical assistance.
4.4.	Eye /mucous membrane contact:	Rinse with water. Remove any contact lenses and continue rinsing with water for at least 15 minutes. Seek medical assistance if required.
4.5.	Ingestion:	Rinse mouth with water; seek medical assistance if required.
4.6.	First aid at worksite:	/

5. Fire – fighting measures:

5.1.	Appropriate fire extinguishing agent:	Product is unflammable. If the product is involved in a fire, all conventional fire extinguishing agents may be used (CO ₂ , water mist, dry chemicals, etc.).
5.2.	Special hazards:	None
5.3.	Required protective equipment for fire fighters, including standard code, if provided:	Protective suit and mask with own air supply.

6. Accidental release measures:

6.1.	Personal safety measures:	Use protective equipment such as goggles, protective respiration mask, and gloves (see Chapters 7 and 8).
6.2.	Environment protection measures:	The product is inert and not harmful for the environment.
6.3.	Cleaning procedures after accidental release:	Mechanically collect into designated and appropriately marked vessels / containers.

Product designation: Titanium dioxide

7. Handling and storing:

7.1.	Product handling:	Ventilation of premises. Prevent high concentration of material in closed space / premise.
7.1.1.	Safety measures:	/
7.1.2.	Technical measures:	Ventilation of premises.
7.1.3.	Recommended and prohibited procedures:	/
7.2.	Storage:	/
7.2.1.	Conditions for safe storage:	Store in a dry and ventilated place, away from sources of humidity or detrimental weather conditions (measure for securing specific product quality). Long-term storage may affect certain on specified quality parameters.
7.2.2.	Separating incompatible products:	n.a.
7.2.3.	Special packaging requirements:	Product is packed in conventional commercial packaging forms. Recommended packaging materials are paper, plastics, and steel.
7.2.4.	Protection from static electricity:	Not required
7.3.	Special methods of use:	n.a.

8. Exposure controls / personal protection

8.1.	Exposure limit values:	VME = 10 mg/m ³ for titanium dioxide TLV/TWA = 10 mg/m ³
8.2.	Exposure control:	
8.2.1.	Exposure control at worksite:	Eliminate dust distribution at source. Provide adequate ventilation at worksite.
	- personal protection equipment:	/
	- protection of respiratory organs:	In case of inadequate ventilation, protective respiration mask should be used – respirator (FFP3).
	- skin and body protection:	Protective outfit.
	- hand protection:	Protective gloves.
	- eye protection:	Use protective goggles if required.
	- general industrial hygiene:	General work hygiene.
8.2.2.	Environment exposure control:	/

Product designation: Titanium dioxide

9. Physical and chemical properties:

9.1.	General information: - appearance: - odour:	Fine white powder. Odourless.
9.2.	Important information on health, safety, and environment: - pH: - boiling point/boiling range: - melting point, melting range: - flashpoint: - inflammability (for solid and gaseous product): - spontaneous ignition: - explosive properties (lower / upper limit): - oxidatising properties: - steam pressure: - relative density: - solubility (in water, fats): - partition coefficient: n-octanol/water - other information: - note:	7.0-9.5 (water solution) ISO 787/9 n.a. >1600°C n.a. n.a. n.a. n.a. n.a. According to the EEC criteria, the product is not classified as such. n.a. 3.8-4.1 kg/dm ³ at 20° C. Product is practically insoluble in water (less than 1 %) and conventional solvents. n.a. n.a. /

10. Stability and reactivity:

10.1.	Stability and behavior:	Product is stable and inert in normal exploitation conditions.
10.1.1.	Conditions to be avoided:	n.a.
10.1.2.	Incompatible substances:	n.a.
10.2.	Hazardous decomposition products:	n.a.
10.3.	Other information:	n.a.

Product designation: Titanium dioxide

11. Toxicological information:

11.1.	Acute toxicity:	LD ₅₀ (rats, orally) >10,000 mg/kg LD ₅₀ (rabbit, dermal) > 10,000 mg/kg LD ₅₀ (rats, inhalation) > 6.8 mg/l
11.2.	Chronic toxicity or chronic effects:	No sensitizing effect known.
11.3.	Over-sensitivity:	Inhalation of dust may cause irritation of nose, larynx (throat), and lungs. Contact with eye mucous membrane may cause irritation of the dust is not removed in time. Substance/material does not cause harmful effects if ingested.
11.4.	Specific effects:	Not known, if instructed procedures of use are followed.

12. Ecological information:

12.1.	Eco-toxicology:	Titanium dioxide is not dangerous to in the environment.
12.2.	Mobility:	/
12.3.	Stability and dissolubility:	The product is stable, insoluble in water.
12.4.	Accumulation:	No bioaccumulation potential.
12.5.	Other negative effects on the environment:	None.

13. Disposal considerations:

13.1.	Product:	Dispose of in accordance with local and national regulations.
13.2.	Polluted packaging:	Cleaning with water or incineration with appropriate equipment.

14. Transport information:

14.1.	ADR, RID:	Product not classified as dangerous according to transport legislation.
14.2.	UN number:	/
14.3.	Product /goods designation:	/
14.4.	Product / goods class:	/
14.5.	Classification code:	/
14.6.	Substance packaging group:	/
14.7.	Hazard label:	/

Cinkarna Celje, SAFETY DATA SHEET	Page 6 of 6
Product designation: Titanium dioxide	

15. Regulatory information:		
15.1.	EC classification, letter-symbol, hazard inscriptions, S and R (including text), special regulations:	
15.1.1.	Classification:	/
15.1.2.	Indication:	/
15.1.3.	Warnings:	/
15.1.4.	Notices:	/
15.1.5.	Special provisions:	Pursuant to the EC Directive or national legislation, the product does not require any special indication (label).
15.2.	Regulations / standards:	Rules and Regulations on Classification and Indication/ Labelling of Hazardous Substances. Rules and Regulations on Classification and Indication/ Labelling of Hazardous Materials. Chemicals Act.
16. Other information:		
16.1.	Worker training:	In compliance with the Health and Safety at Work Act.
16.2.	Recommended or limited product use:	Processing of pigment (dyes, enamel coatings). Paper coatings. Product is intended only for industrial use. It is registered in the EINECS register with the No. 236-675-5. This product is also classified in the TSCA register.
16.3.	Instructions:	Safety data sheet is to be used only in combination with the product technical sheet; safety data sheet cannot be a substitute for a technical sheet. Carcinogenicity: IN February 2006, IARC found that the evidence to support carcinogenicity of titanium dioxide in people is insufficient. Based on experiments on rats (inhalation), IARC concludes that there is sufficient evidence to support carcinogenicity in studied animals (rats). General conclusion of the IARC is that titanium dioxide is "potentially cancerous" in people (class 2B). This conclusion is based on the IARC rules according to which a substance or a material is declared cancerous when results of tumor generation are confirmed in two or more independent experiments on one living species in different laboratories or at different times, by different methods.
16.4.	Sources:	Rules (OJ RS, No.110/03 and 47/04), Regulations on Classification, Packaging, and Labelling of Hazardous Substances (OJ RS, No. 35/05 and 54/07), Commission Directive 2004/73/EC, Rules and Regulations on Waste Treatment and Handling (OJ RS No. 84/06, 106/06), Safety and health at Work Act (OJ RS No. 56/99 in 64/01), Regulation (EC) No.1907/2006, Directive 57/548/EEC.
16.5.	Revised issue:	Amended with regard to IARC. Amended with regard to Regulation (EC) No.1907/2006.
The information is based on our knowledge of the product at the time of compilation of this safety data sheet. If the product is used in a way that is not compliant with the recommended use, the user / buyer shall solely be held responsible for any resulting damage. Furthermore, the information in this safety data sheet does not relieve the user of any obligation to comply with all legislation relevant for the field of the user's activity.		