1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Product Name

Toner for MP C6503/MP C8003

Part number 842192

Color Black

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

Recommended use Print the image in printers and multi-purpose devices.

1.3 Information on the supplier of the safety data sheet

Importer

Ricoh Europe SCM B.V.

Blankenweg 24, 4612 RC Bergen op Zoom, The Netherlands

TEL: +31 164 280808 / FAX: +31 164 280820

https://www.ricoh-europe.com, RESCM.ISI-global@ricoh-europe.com

Manufacture

Ricoh Co., Ltd.

Chome-3-6 Nakamagome, Ōta, Tokyo 143-8555, Japan

1.4 Urgent call phone number

Austria	+43 1 31 00472	Belgium	+32 (0)70 245 245
Czech Republic	+420 (0)267 125 32	Denmark	112
Finland	+358 (0)9 471 977	France	+33 (0)145 42 59 59
Germany	+49 511 67420	Hungary	+36 80 20 11 99
Ireland	111	Italy	+39 0266101029
Luxembourg	+352 8002 5500	Netherlands	+31 302748888
Poland	+48 (42) 253 84 00	Portugal	112
Slovakia	+421 2 4854 4511	Spain	+34 91 562 04 20
Sweden	112	United Kingdom	111 (UK only)
Norway	+47 22 59 13 00	Switzerland	+41 044 832 3411

2. IDENTIFICATION OF DANGERS

2.1 Classification of the substance or mixture

According to the following data, no classification and labeling are necessary according to Regulation (EC) no. 1272/2008.

2.2 Elements of the label

Not applicable

2.3 Other hazards

No hazards are foreseen under normal conditions of use.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Mixtures

Name chemistry	% by weight	CAS NO	EC number	Classification Reg.1272 / 2008).	Indications of danger	Registration number REACH
Polyester resin	50-90	Confidential	Confidential	None	None	Confidential
Wax	1-20	Confidential	Confidential	None	None	Confidential
Carbon black	1-20	1333-86-4	215-609-9	None	None	01-2119384822-32-xxxx
Titanium oxide	0.1-1	13463-67-7	236-675-5	None	None	01-2119489379-17- xxxx
Silica	<10	7631-86-9	231-545-4	None	None	01-2119379499-16-- xxxx
Ferrite（Iron Oxide 50～90%、Manganese Oxide 14～45%）	1-30	66402-68-4	None	None	None	

Testo completo delle indicazioni H: vedere Sezione 16

Nota: componenti contrassegnati come "Non certificato" sono esenti da registrazione.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation Move away from the exposure area, get fresh air and rinse your mouth with water. Consult a doctor.

Contact with the skin Wash thoroughly with soap and water.

Eye contact Wash with plenty of water until the particles are removed. Consult a doctor.

Ingestion Rinse the mouth with water and then drink plenty of water or milk.

4.2 Most important symptoms and effects, both acute and delayed

Toxicity

Eyes No known effect

Skin No known effect

Inhalation No known effect

Chronic effects

Main symptoms Over-exposure may give rise to mild respiratory irritation

4.3 Indication for immediate medical consultation and adequate medical treatment

Immediate medical intervention is not required.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Fire fighting CO_2, dry chemicals, foam or water

Unsuitable extinguishing media

Do not use direct water jet to prevent fire spread.

5.2 Special hazards arising from the substance or mixture

Specific risks When dispersed finely in the air, it can form explosive air-dust mixtures.

5.3 Special protective actions for firefighters

Specific method No special fire fighting equipment is required. You can use fire extinguishers or sprinklers.

Fire Brigade Protection

Wear gloves, glasses and a mask if necessary.

6. MEASURES IN CASE OF ACCIDENTAL RELEASE

6.1 Personal precautions, protective equipment and emergency procedures

Do not inhale dust.

6.2 Environmental precautions

Do not discharge into drains or watercourses.

6.3 Methods and materials for containment and cleaning up

Fine dust may form explosive dust-air mixtures. Make sure that there is no flame and remove them if necessary. Slowly sweep the spilled dust and clean the residues with a damp cloth. If you want to use a vacuum cleaner, choose a dust-proof type.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling

Technical measurements Not applicable

Advice for safe handling

Do not handle in areas with wind or air currents as dust may penetrate the eyes. Avoid inhaling dust.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of reach of children.

To preserve the quality, store in a dry and well-ventilated place where the temperature does not exceed along 35 degrees centigrade and without direct exposure to sunlight.

Packaging material Not applicable

7.3 Specific end use

Print the image in printers and multi-purpose devices.

8. EXPOSURE CONTROL / INDIVIDUAL PROTECTION

8.1 Control parameters

Exposure limit values

Prepared USA OSHA PEL (TWA): 15mg / m3 (total powder) 5.0mg / m3 (respirable fraction).
ACGIH TLV (TWA): 10mg / m3 (Inhalable fraction) 3.0mg / m3 (respirable fraction).
DFG MAK: 4.0mg / m3 (Total powder) 1.5mg / m3 (Breathable fraction)

Substance Not applicable

8.2 Exposure controls

Occupational exposure control

Use in adequately ventilated areas. No precautions required in case of appropriate use.

Control of exposure in the environment

No precautions are necessary under normal use conditions.

8.3 Recommended measures for risk management, such as personal protective equipment (PPE)

Respiratory protections Normal use does not require any precaution. If the exposure concentration limit is exceeded, use an approved respirator.

Hand protection Use vinyl or rubber gloves if necessary.

Eye protection Wear protective goggles if necessary.

Protection of skin and body

Wear chemically resistant aprons or other impenetrable clothing if necessary.

Hygiene measures Wash hands after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Dust
Physical state	Solid
Color	Black
Smell	Slight plastic smell
Olfactory threshold	Weak

Important information on health, safety and the environment

pH	Not applicable

Measurement temperatures in degrees centigrade.

Specific temperatures / temperature ranges in which changes in the physical state can occur.

Boiling point	Not applicable
Fusion point	Softening point: about 110.

Decomposition temperature (degrees Celsius)

Not determined

Flash point	Not applicable

Properties of the explosion

This product is considered non-explosive material under normal conditions of use.

Oxidizing properties	This product is considered non-oxidizing material under normal conditions of use.
Evaporation degree	(Butyl acetate = 1)

Not applicable

Steam pressure (Pa)	Not applicable

Measuring temperature (degrees Celsius)

Vapor density (air = 1)

Not applicable

Density (g / cm^3)	About 1.2 Measuring temperature (degrees Celsius) 25
Relative density	About 1.2
Viscosity (Pa · s)	Not applicable
Solubility (g / l)	Insoluble
Chloroform	Solubility (g / l): slightly soluble

Octanol / water partition coefficient

Not available

9.2 Other information

Volatility (%) 0.2 or less

10. STABILITY AND REACTIVITY

10.1 Reactivity

Explosion of powders like most organic fine powders.

10.2 Chemical stability

Stabile

10.3 Possibility of hazardous reactions

It does not generate dangerous reactions during normal processing.

10.4 Conditions to avoid

Avoid dispersion of dust in the air.

10.5 Incompatible materials to avoid

Not applicable to normal use.

10.6 Hazardous decomposition products

It does not generate decomposition products.

11. TOXICOLOGICAL INFORMATION

The toxicity data below are based on the results of reprography materials and the like.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity (LD50)

5000 or more [mg / kg] (Rat) (based on test results from other products with similar ingredients).

Acute dermal toxicity

Not available

Acute inhalation toxicity

Not available

Skin corrosion / irritation (PII)

≦ 1.0 (Rabbit) (based on test results on other products with similar ingredients).

Serious damage / irritation of the eyes

The components are not classified as hazardous (according to regulations (EC) 1272/2008.

Respiratory / cutaneous lesions

0% (Marmot) (based on test results on other products with similar ingredients).

Carcinogenicity The carbon black contained in this product is classified as Group 2B by IARC, following inhalation tests in rats. Oral or cutaneous intake, however, did not show carcinogenicity. Toner containing carbon black did not show carcinogenicity in chronic inhalation exposure tests in rats.
IARC evaluated carbon dioxide and titanium dioxide as group 2B carcinogens, for whichthere is inadequate human evidence, but sufficient evidence of animals. The latter are based on evidences such as the development of lung tumors in rats that receive chronic inhalation exposure to black carbon powders and titanium dioxide at levels that induce lung particle overload. However, there are inhalation studies of a toner containing carbon black and a toner containing titanium dioxide which demonstrated or suggested no association between toner exposure and tumor development in rats.

Germ cell Germ mutagenicity

Negative (Ames test).

Reproductive toxicity It does not contain substances that are dangerous for reproductive health.

STOT-Single exposure

Not available

STOT-Repeated exposure

Not available

Suction hazard It does not contain substances considered to be risky for reproductive health.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity to the aquatic environment

Acute toxicity to fish (LC50)

Not classified as toxic (Regulation (EC) No. 1272/2008).

Acute toxicity for daphnia (LC50)

Not classified as toxic (Regulation (EC) No. 1272/2008).

12.2 Persistence and degradability

Not easily biodegradable

12.3 Bioaccumulative potential

Bioaccumulation is unlikely

12.4 Mobility in the soil

No detection of negative effects on the environment

12.5 Results of the PBT and vPvB assessment

It is not a PBT according to REACH annex XIII

12.6 Other adverse effects

It is little or not at all dangerous for the environment

13. DISPOSAL CONSIDERATIONS

13.1 Disposal considerations

General informations	Dispose of waste and residues in accordance with the requirements in accordance with the local laws in force.
Disposal methods	The disposal methods are based on the material supplied. Disposal must be carried out in compliance with the laws and regulations in force and with the characteristics of the material at the time of disposal. Make sure that the disposal procedures comply with local regulations.
Precautions	Do not dispose of the toner cartridge or toner in open flames. Hot toner may scatter and cause burns or other damage .

14. TRANSPORT INFORMATION

14.1 UN/ID No

Not applicable.

14.2 Official shipping designation

Not applicable.

14.3 Danger classes related to transport

Not applicable.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

It is little or not at all dangerous for the environment.

14.6 Special precautions for users

To preserve the quality, avoid direct sunlight.

14.7 Trasporto all'ingrosso secondo el MARPOL 73/78 e del Codice IBC

Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations and legislation specific to the substance or mixture

The substance is not classified as hazardous according to Regulation (EC) No 1272/2008

The substance is not subject to regulation (EC) No 1907/2006 Annex XVII.

15.2 Evaluation of chemical safety

Not applicable

16. OTHER INFORMATION

References to the literature

ANSI Z400.1-1993.

ISO 11014-1.

IIARC (1996) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65,

Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds ", Lyon, pp. 149-261

H. Muhle, B. Bellman, O. Creutzenberg, C. Dasenbrock, H. Emst, R. Kilpper, J.C. MacKenzie, P. Morrow, U.

Mohr, S. Takenaka and R. Mermelstein (1991) "Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats "Fundamental and Applied Toxicology 17, pp. 280-299 IARC (2008)" IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93 "

NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupation Exposure to Titanium Dioxide DRAFT "

ACGIH-TLV: Limit threshold values for chemicals and physical agents and biological exposure indexes

OSHA Tables Z: US Department of Labor, 29 CFR Part 1910, Tables Z-1, Z-2 and Z-3

NTP (USA): US Department of Health and Human Services National Toxicology Program

Annual Report on Carcinogens

DFG-MAK (GER): DFG list of MAK and BAT values

Symbol (EC): Regulations (EC) No 1272/2008

91/155 / EEC EU Directive 91/155 / EEC

(EC) No 1907/2006 AnnexXVII

: Regulations (EC) No 1907/2006 Annex XVII

(EC) No 689/2008: Regulations (EC) No 689/2008

Abbreviations

OSHA PEL: PEL (Permissible Exposure Limit, Tolerable Exposure Limit), in Occupational Safety and Health Act

ACGIH-TLV: TLV (Threshold Limit Values) in the American Conference of Governmental Industrial Hygienists

REACH: (CE) No. 1907/2006: Council regulation concerning registration, evaluation, authorization and restriction of chemicals

SVHC: Substances of Very High Concern (extremely problematic substances)

ECHA: European Chemicals Agency (European Chemicals Agency)

DFG-MAK: MAK (Maximale Arbeitsplatz Konzentrationen) by Deutsche Forschungs Gemeinschaft

RoHS: Restriction of the use of certain hazardous substances in electrical equipment and electronic

TWA: Time Weighted Average (time weighted average)

IARC: International Agency for Research on Cancer (International Agency for Cancer Research)

NTP: National Toxicology Program

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SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	Print Cartridge Yellow MP C 8003 (Yellow toner)
Registration number	-
Synonyms	None.
SDS No.	842193
Issue date	23-March-2020
Version number	01

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

Identified uses	Image formation in printing machines or copiers dry toner
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Distributor	Ricoh UK Ltd
Address	800 Pavilion Drive, Northampton Business Park Northampton NN4 7YL, UK
Phone	+44 330 123 3011
E-mail	contactcr@ricoh.co.uk
Importer	Ricoh Europe SCM B.V.
Address	Blankenweg 24, 4612 RC Bergen op Zoom, The Netherlands
E-mail	reu.compliance@ricoh-europe.com
Manufacturer	Ricoh Co., Ltd.
Address	Chome 3-6 Nakamagome, Ôta, Tokyo, 143-8555, Japan
E-mail	msdsinfo@nts.ricoh.co.jp

1.4.Emergency telephone number	111 (UK only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Hazard summary	Not available.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%), Organic pigment, Polyester resin, Silica, Wax
Hazard pictograms	None.
Signal word	None.
Hazard statements	The mixture does not meet the criteria for classification.

Precautionary statements

Prevention	Not available.
Response	Not available.
Storage	Not available.
Disposal	Not available.
Supplemental label information	None.
2.3. Other hazards	None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Polyester resin **Classification:** -	50 - 90	Confidential -	Confidential	-	
Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%) **Classification:** -	1 - 30	66402-68-4 266-340-9	Exception	-	
Wax **Classification:** -	1 - 20	Confidential -	Confidential	-	
Organic pigment **Classification:** -	1 - 10	Confidential -	Confidential	-	
Silica **Classification:** -	1 - 10	7631-86-9 231-545-4	01-2119379499-16-xxxx	-	
Titanium dioxide **Classification:** -	0.1 - 1	13463-67-7 236-675-5	01-2119489379-17-xxxx	-	

Composition comments This product does not contain any of the following RoHS2 substances as ingredients. Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyleters (PBDE), Phthalate esters (DEHP, BBP, DBP, and DIBP), SVHC (substances of very high concern: published by ECHA).

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Move to fresh air. Get medical attention, if needed.

Skin contact Wash off with soap and plenty of water.

Eye contact Rinse with plenty of water. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth thoroughly. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed Not available.

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

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Water. Foam. Dry chemicals. Carbon dioxide (CO_2).

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear suitable protective equipment.

Special fire fighting procedures Not available.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid inhalation of dust.

For emergency responders	Not available.
6.2. Environmental precautions	Do not discharge into drains, water courses or onto the ground. Avoid release to the environment.
6.3. Methods and material for containment and cleaning up	Remove from the surface by skimming or with suitable absorbents. Collect dust using a vacuum cleaner equipped with HEPA filter.
6.4. Reference to other sections	Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.
7.2. Conditions for safe storage, including any incompatibilities	Not available.
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Silica (CAS 7631-86-9)	TWA	6 mg/m3	Inhalable dust.
		2.4 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable.
		10 mg/m3	Inhalable

Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Not available.
Derived no effect levels (DNELs)	Not available.
Predicted no effect concentrations (PNECs)	Not available.

8.2. Exposure controls

Appropriate engineering controls	Not available.

Individual protection measures, such as personal protective equipment

General information	No special protective equipment required.
Eye/face protection	Not normally needed.
Skin protection	
- Hand protection	Not normally needed.
- Other	Not normally needed.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	Not available.
Hygiene measures	Not available.
Environmental exposure controls	Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Colour	Yellow
Odour	Sligthly plastic odour
Odour threshold	Not available
pH	Not applicable
Melting point/freezing point	(Softening point) Approx.90 / 1710 °C (3110 °F) estimated

Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available
Viscosity	Not applicable
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	Dust explosion (like most finely grained organic powders)
Density	Approx.1.5
Flammability	Not flammable
VOC	<= 0.2

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Dust explosive, but under the intended conditions of use, the probability of dust explosion is very low.
10.4. Conditions to avoid	None under normal conditions.
10.5. Incompatible materials	Not available.
10.6. Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

General information	Not available.

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.

11.1. Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Print Cartridge Yellow MP C 8003 (Yellow toner)		
Acute		
Oral		
LD50	Rat	>= 5000 mg/kg

Skin corrosion/irritation

Irritation Corrosion - Skin: P.I.I. value

Print Cartridge Yellow MP C 8003 (Yellow toner)	<= 1 Species: Rabbit Notes: Based on other product test results of similar ingredients.

Serious eye damage/eye irritation Not available.

Respiratory sensitisation Not available.

Skin sensitisation

Skin sensitisation

Print Cartridge Yellow MP C 8003 (Yellow toner)	Result: Non-skinsensitive Species: Mouse Notes: Based on other product test results of similar ingredients.

Germ cell mutagenicity

Germ cell mutagenicity: Ames test

Print Cartridge Yellow MP C 8003 (Yellow toner)	Result: Negative Notes: Based on other product test results of similar ingredients.

Carcinogenicity Titanium dioxide contained in this product is classified to Group 2B of IARC as the result of inhalation test in use of rat.
But oral/skin test does not show carcinogenicity.
In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lungs clearance mechanism (overload phenomenon)), the rat alone showed lung tumor.
Under a normal use practice, the concentration should be far lower than the above; and it is assumed that there is no such use.
Also, relation between respiratory disease and work exposure of titanium dioxide is not observed with epidemiological survey.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Mixture versus substance information Not available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity This material is not expected to be harmful to aquatic life.

12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Not available.

Contaminated packaging Not available.

EU waste code Not available.

Disposal methods/information Contract with a disposal operator licensed by the Law on Disposal and Cleaning.

Special precautions Dispose in accordance with all applicable regulations. Do not throw in contents or fire containing contents.
The contents will splash and cause burns.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Titanium dioxide (CAS 13463-67-7)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References	ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices HSDB® - Hazardous Substances Data Bank National Toxicology Program (NTP) Report on Carcinogens US. IARC Monographs on Occupational Exposures to Chemical Agents JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS) Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits JIS Z 7252:2014 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”
Information on evaluation method leading to the classification of mixture	Not available.
Full text of any H-statements not written out in full under Sections 2 to 15	None.
Revision information	None.
Training information	Not available.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.

RICOH

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	Print Cartridge Magenta MP C8003 (Magenta toner)
Registration number	-
Synonyms	None.
SDS No.	842194
Issue date	23-March-2020
Version number	01

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

Identified uses	Image formation in printing machines or copiers dry toner
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Distributor	Ricoh UK Ltd
Address	800 Pavilion Drive, Northampton Business Park Northampton NN4 7YL, UK
Phone	+44 330 123 3011
E-mail	contactcr@ricoh.co.uk
Importer	Ricoh Europe SCM B.V.
Address	Blankenweg 24, 4612 RC Bergen op Zoom, The Netherlands
E-mail	reu.compliance@ricoh-europe.com
Manufacturer	Ricoh Co., Ltd.
Address	Chome 3-6 Nakamagome, Ôta, Tokyo, 143-8555, Japan
E-mail	msdsinfo@nts.ricoh.co.jp
1.4.Emergency telephone number	111 (UK only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Hazard summary Not available.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%), Organic pigment, Polyester resin, Silica, Wax
Hazard pictograms	None.
Signal word	None.
Hazard statements	The mixture does not meet the criteria for classification.

Precautionary statements

Prevention	Not available.
Response	Not available.
Storage	Not available.
Disposal	Not available.

Supplemental label information None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Polyester resin **Classification:** -	50 - 90	Confidential -	Confidential	-	
Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%) **Classification:** -	1 - 30	66402-68-4 266-340-9	Exception	-	
Wax **Classification:** -	1 - 20	Confidential -	Confidential	-	
Organic pigment **Classification:** -	1 - 10	Confidential -	Confidential	-	
Silica **Classification:** -	1 - 10	7631-86-9 231-545-4	01-2119379499-16-xxxx	-	
Titanium dioxide **Classification:** -	0.1 - 1	13463-67-7 236-675-5	01-2119489379-17-xxxx	-	

Composition comments This product does not contain any of the following RoHS2 substances as ingredients. Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyleters (PBDE), Phthalate esters (DEHP, BBP, DBP, and DIBP), SVHC (substances of very high concern: published by ECHA).

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Move to fresh air. Get medical attention, if needed.

Skin contact Wash off with soap and plenty of water.

Eye contact Rinse with plenty of water. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth thoroughly. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed Not available.

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

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Water. Foam. Dry chemicals. Carbon dioxide (CO_2).

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear suitable protective equipment.

Special fire fighting procedures Not available.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid inhalation of dust.

For emergency responders	Not available.
6.2. Environmental precautions	Do not discharge into drains, water courses or onto the ground. Avoid release to the environment.
6.3. Methods and material for containment and cleaning up	Remove from the surface by skimming or with suitable absorbents. Collect dust using a vacuum cleaner equipped with HEPA filter.
6.4. Reference to other sections	Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.
7.2. Conditions for safe storage, including any incompatibilities	Not available.
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Silica (CAS 7631-86-9)	TWA	6 mg/m3	Inhalable dust.
		2.4 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable.
		10 mg/m3	Inhalable

Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Not available.
Derived no effect levels (DNELs)	Not available.
Predicted no effect concentrations (PNECs)	Not available.

8.2. Exposure controls

Appropriate engineering controls	Not available.

Individual protection measures, such as personal protective equipment

General information	No special protective equipment required.
Eye/face protection	Not normally needed.
Skin protection	
- Hand protection	Not normally needed.
- Other	Not normally needed.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	Not available.
Hygiene measures	Not available.
Environmental exposure controls	Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Colour	Magenta
Odour	Sligthly plastic odour
Odour threshold	Not available
pH	Not applicable
Melting point/freezing point	(Softening point) Approx.90 / 1710 °C (3110 °F) estimated

Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Approx.1.5
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available
Viscosity	Not applicable
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	Dust explosion (like most finely grained organic powders)
Density	Approx.1.5
Flammability	Not flammable
Specific gravity	4.23 estimated
VOC	<= 0.2

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Dust explosive, but under the intended conditions of use, the probability of dust explosion is very low.
10.4. Conditions to avoid	None under normal conditions.
10.5. Incompatible materials	Not available.
10.6. Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

General information	Not available.

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.

11.1. Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Print Cartridge Magenta MP C8003 (Magenta toner)		
Acute		
Oral		
LD50	Rat	>= 5000 mg/kg

Skin corrosion/irritation

Irritation Corrosion - Skin: P.I.I. value

Print Cartridge Magenta MP C8003 (Magenta toner)	<= 1 Species: Rabbit Notes: Based on other product test results of similar ingredients.

Serious eye damage/eye irritation Not available.

Respiratory sensitisation Not available.

Skin sensitisation

Skin sensitisation

Print Cartridge Magenta MP C8003 (Magenta toner)	Result: Non-skinsensitive Species: Mouse Notes: Based on other product test results of similar ingredients.

Germ cell mutagenicity

Germ cell mutagenicity: Ames test

Print Cartridge Magenta MP C8003 (Magenta toner)	Result: Negative Notes: Based on other product test results of similar ingredients.

Carcinogenicity Titanium dioxide contained in this product is classified to Group 2B of IARC as the result of inhalation test in use of rat.
But oral/skin test does not show carcinogenicity.
In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lungs clearance mechanism (overload phenomenon)), the rat alone showed lung tumor.
Under a normal use practice, the concentration should be far lower than the above; and it is assumed that there is no such use.
Also, relation between respiratory disease and work exposure of titanium dioxide is not observed with epidemiological survey.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Mixture versus substance information Not available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity This material is not expected to be harmful to aquatic life.

12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Not available.

Contaminated packaging Not available.

EU waste code Not available.

Disposal methods/information Contract with a disposal operator licensed by the Law on Disposal and Cleaning.

Special precautions Dispose in accordance with all applicable regulations. Do not throw in contents or fire containing contents.
The contents will splash and cause burns.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Titanium dioxide (CAS 13463-67-7)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References	ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices HSDB® - Hazardous Substances Data Bank National Toxicology Program (NTP) Report on Carcinogens US. IARC Monographs on Occupational Exposures to Chemical Agents JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS) Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits JIS Z 7252:2014 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”
Information on evaluation method leading to the classification of mixture	Not available.
Full text of any H-statements not written out in full under Sections 2 to 15	None.
Revision information	None.
Training information	Not available.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.

RICOH

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	Print Cartridge Cyan MP C 8003 (Cyan toner)
Registration number	-
Synonyms	None.
SDS No.	842195
Issue date	23-March-2020
Version number	01

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

Identified uses	Image formation in printing machines or copiers dry toner
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Distributor	Ricoh UK Ltd
Address	800 Pavilion Drive, Northampton Business Park Northampton NN4 7YL, UK
Phone	+44 330 123 3011
E-mail	contactcr@ricoh.co.uk
Importer	Ricoh Europe SCM B.V.
Address	Blankenweg 24, 4612 RC Bergen op Zoom, The Netherlands
E-mail	reu.compliance@ricoh-europe.com
Manufacturer	Ricoh Co., Ltd.
Address	Chome 3-6 Nakamagome, Ôta, Tokyo, 143-8555, Japan
E-mail	msdsinfo@nts.ricoh.co.jp
1.4.Emergency telephone number	111 (UK only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Hazard summary	Not available.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%), Organic pigment, Polyester resin, Silica, Wax
Hazard pictograms	None.
Signal word	None.
Hazard statements	The mixture does not meet the criteria for classification.

Precautionary statements

Prevention	Not available.
Response	Not available.
Storage	Not available.
Disposal	Not available.
Supplemental label information	None.
2.3. Other hazards	None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Polyester resin **Classification:** -	50 - 90	Confidential -	Confidential	-	
Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%) **Classification:** -	1 - 30	66402-68-4 266-340-9	Exception	-	
Wax **Classification:** -	1 - 20	Confidential -	Confidential	-	
Organic pigment **Classification:** -	1 - 10	147-14-8 205-685-1	01-2119458771-32-xxxx	-	
Silica **Classification:** -	1 - 10	7631-86-9 231-545-4	01-2119379499-16-xxxx	-	
Titanium dioxide **Classification:** -	0.1 - 1	13463-67-7 236-675-5	01-2119489379-17-xxxx	-	

Composition comments This product does not contain any of the following RoHS2 substances as ingredients. Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyleters (PBDE), Phthalate esters (DEHP, BBP, DBP, and DIBP), SVHC (substances of very high concern: published by ECHA).

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Move to fresh air. Get medical attention, if needed.

Skin contact Wash off with soap and plenty of water.

Eye contact Rinse with plenty of water. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth thoroughly. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed Not available.

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

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Water. Foam. Dry chemicals. Carbon dioxide (CO_2).

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear suitable protective equipment.

Special fire fighting procedures Not available.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid inhalation of dust.

For emergency responders	Not available.
6.2. Environmental precautions	Do not discharge into drains, water courses or onto the ground. Avoid release to the environment.
6.3. Methods and material for containment and cleaning up	Remove from the surface by skimming or with suitable absorbents. Collect dust using a vacuum cleaner equipped with HEPA filter.
6.4. Reference to other sections	Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.
7.2. Conditions for safe storage, including any incompatibilities	Not available.
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Silica (CAS 7631-86-9)	TWA	6 mg/m3	Inhalable dust.
		2.4 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable.
		10 mg/m3	Inhalable

Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Not available.
Derived no effect levels (DNELs)	Not available.
Predicted no effect concentrations (PNECs)	Not available.

8.2. Exposure controls

Appropriate engineering controls	Not available.

Individual protection measures, such as personal protective equipment

General information	No special protective equipment required.
Eye/face protection	Not normally needed.
Skin protection	
- Hand protection	Not normally needed.
- Other	Not normally needed.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	Not available.
Hygiene measures	Not available.
Environmental exposure controls	Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Colour	Cyan
Odour	Sligthly plastic odour
Odour threshold	Not available
pH	Not applicable
Melting point/freezing point	(Softening point) Approx.90 / 480 °C (896 °F) estimated

Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Approx.1.5
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available
Viscosity	Not applicable
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	Dust explosion (like most finely grained organic powders)
Density	Approx.1.5
Flammability	Not flammable
Specific gravity	4.23 estimated
VOC	<= 0.2

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Dust explosive, but under the intended conditions of use, the probability of dust explosion is very low.
10.4. Conditions to avoid	None under normal conditions.
10.5. Incompatible materials	Not available.
10.6. Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

General information	Not available.

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.

11.1. Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Print Cartridge Cyan MP C 8003 (Cyan toner)		
Acute		
Oral		
LD50	Rat	>= 5000 mg/kg

Skin corrosion/irritation

Irritation Corrosion - Skin: P.I.I. value
Print Cartridge Cyan MP C 8003 (Cyan toner) <= 1
Species: Rabbit
Notes: Based on other product test results of similar ingredients.

Serious eye damage/eye irritation Not available.

Respiratory sensitisation Not available.

Skin sensitisation

Skin sensitisation
Print Cartridge Cyan MP C 8003 (Cyan toner) Result: Non-skinsensitive
Species: Mouse
Notes: Based on other product test results of similar ingredients.

Germ cell mutagenicity

Germ cell mutagenicity: Ames test
Print Cartridge Cyan MP C 8003 (Cyan toner) Result: Negative
Notes: Based on other product test results of similar ingredients.

Carcinogenicity Titanium dioxide contained in this product is classified to Group 2B of IARC as the result of inhalation test in use of rat.
But oral/skin test does not show carcinogenicity.
In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lungs clearance mechanism (overload phenomenon)), the rat alone showed lung tumor.
Under a normal use practice, the concentration should be far lower than the above; and it is assumed that there is no such use.
Also, relation between respiratory disease and work exposure of titanium dioxide is not observed with epidemiological survey.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Mixture versus substance information Not available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity This material is not expected to be harmful to aquatic life.

12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Not available.

Contaminated packaging Not available.

EU waste code Not available.

Disposal methods/information Contract with a disposal operator licensed by the Law on Disposal and Cleaning.

Special precautions Dispose in accordance with all applicable regulations. Do not throw in contents or fire containing contents.
The contents will splash and cause burns.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Organic pigment (CAS 147-14-8)
Titanium dioxide (CAS 13463-67-7)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References	ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices HSDB® - Hazardous Substances Data Bank National Toxicology Program (NTP) Report on Carcinogens US. IARC Monographs on Occupational Exposures to Chemical Agents JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS) Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits JIS Z 7252:2014 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”
Information on evaluation method leading to the classification of mixture	Not available.
Full text of any H-statements not written out in full under Sections 2 to 15	None.
Revision information	None.
Training information	Not available.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.