

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 as amended

Product Name : Print Cartridge Black IM C2500

SDS Number : 842311

Release Date 2018-07-23

Revision Date 2018-09-01

RICOH

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Version 2.00

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

1.1. Product identifier

Product Name Print Cartridge Black IM C2500 (Black toner)

SDS number 842311

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 | +46 10 456 67 00 | United Kingdom | 111 (UK only) |
| Norway | 113 | Switzerland | +41 044 832 3411 |

Product Name : Print Cartridge Black IM C2500
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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 (67/548) | Indications of danger | Registration number REACH |
|-------------------|----------------|--------------|--------------|----------------------------|--------------------------|---------------------------------|
| Polyester resin | 60-90 | 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 dioxide | 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 |

This product does not contain any of the following substances as ingredients.

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), SVHC (substances of very high concern: published by ECHA).

And if it contains any impurities, it does not exceed any of the thresholds of RoHS.

Full text of H indications: see Section 16

Note: components marked as "Not certified" are exempt from registration

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 CO2, 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 | Powder |
| 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 90. |

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 / cm³) 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

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Volatility (%) 0.2 or less

10. STABILITY AND REACTIVITY

10.1 Reactivity

Explosion of powders like most organic fine powders.

10.2 Chemical stability

Stable

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

Carbon black and titanium dioxide contained in this product are classified to Group 2B of IARC as the result of inhalation test in use of rat.

But oral/skin test does not show carcinogenicity.

The toner containing carbon black did not show carcinogenicity in chronic inhalation exposure test in use of rat.

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.

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 Wholesale transport in accordance with MARPOL 73/78 and the IBC Code

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.

IARC (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

Disclaimer

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The information concerns only the specified specific material and is not related to use in combination with other materials or processes.

RICOH COMPANY, LTD assumes no legal responsibility for the use or reliability of this information.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 as amended

Product Name : Print Cartridge Cyan IM C2500H

SDS Number : 842314

Release Date 2018-07-23

Revision Date 2018-09-01

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Version 2.00

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

1.1. Product identifier

Product Name Print Cartridge Cyan IM C2500H (Cyan toner)

SDS number 842314

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 | +46 10 456 67 00 | United Kingdom | 111 (UK only) |
| Norway | 113 | 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 (67/548) | Indications of danger | Registration number REACH |
|-------------------|-------------|--------------|--------------|----------------------------|--------------------------|---------------------------------|
| Polyester resin | 60-90 | Confidential | Confidential | None | None | Confidential |
| Wax | 1-20 | Confidential | Confidential | None | None | Confidential |
| Organic pigment | 1-20 | 147-14-8 | 205-685-1 | None | None | 01-2119458771- 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 |

This product does not contain any of the following substances as ingredients.

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), SVHC (substances of very high concern: published by ECHA).

And if it contains any impurities, it does not exceed any of the thresholds of RoHS.

Full text of H indications: see Section 16

Note: components marked as "Not certified" are exempt from registration.

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 CO2, 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 | Powder |
| Physical state | Solid |
| Color | Cyan |
| 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 90.

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 / cm³) 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

Stable

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

Titanium dioxide contained in this product are 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.

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 Wholesale transport in accordance with MARPOL 73/78 and the IBC Code

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.

IARC (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

Disclaimer

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The information concerns only the specified specific material and is not related to use in combination with other materials or processes.

RICOH COMPANY, LTD assumes no legal responsibility for the use or reliability of this information.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 as amended
Product Name : Print Cartridge Magenta IM C2500H
SDS Number : 842313
Release Date 2018-07-23 Revision Date 2018-09-01

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

1.1. Product identifier

Product Name Print Cartridge Magenta IM C2500H (Magenta toner)
SDS number 842313

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 | +46 10 456 67 00 | United Kingdom | 111 (UK only) |
| Norway | 113 | 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 (67/548) | Indications of danger | Registration number REACH |
|-------------------|-------------|--------------|--------------|----------------------------|--------------------------|---------------------------------|
| Polyester resin | 60-90 | Confidential | Confidential | None | None | Confidential |
| Wax | 1-20 | Confidential | Confidential | None | None | Confidential |
| Organic pigment | 1-20 | Confidential | Confidential | None | None | Confidential |
| 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 |

This product does not contain any of the following substances as ingredients.

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), SVHC (substances of very high concern: published by ECHA).

And if it contains any impurities, it does not exceed any of the thresholds of RoHS.

Full text of H indications: see Section 16

Note: components marked as "Not certified" are exempt from registration

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 CO₂, 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 | Powder |
| Physical state | Solid |
| Color | Magenta |
| 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 90.

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 / cm³) 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

Product Name : Print Cartridge Magenta IM C2500H
SDS Number : 842313
Release Date 2018-07-23

Revision Date 2018-09-01

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Volatility (%) 0.2 or less

10. STABILITY AND REACTIVITY

10.1 Reactivity

Explosion of powders like most organic fine powders.

10.2 Chemical stability

Stable

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

Titanium dioxide contained in this product are 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.

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 Wholesale transport in accordance with MARPOL 73/78 and the IBC Code

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.

IARC (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 Annex XVII

: 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

according to Regulation (EC) No. 1907/2006 as amended
Product Name : Print Cartridge Yellow IM C2500H
SDS Number : 842312
Release Date 2018-08-24 Revision Date 2018-09-01

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

1.1. Product identifier

Product Name Print Cartridge Yellow IM C2500H (Yellow toner)
SDS number 842312

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 | +46 10 456 67 00 | United Kingdom | 111 (UK only) |
| Norway | 113 | Switzerland | +41 044 832 3411 |

Product Name : Print Cartridge Yellow IM C2500H
SDS Number : 842312
Release Date 2018-08-24 Revision Date 2018-09-01

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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 (67/548) | Indications of danger | Registration number REACH |
|-------------------|-------------|--------------|--------------|----------------------------|--------------------------|---------------------------------|
| Polyester resin | 60-90 | Confidential | Confidential | None | None | Confidential |
| Wax | 1-20 | Confidential | Confidential | None | None | Confidential |
| Organic pigment | 1-20 | Confidential | Confidential | None | None | Confidential |
| Titanium dioxide | 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 |

This product does not contain any of the following substances as ingredients.

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), SVHC (substances of very high concern: published by ECHA).

And if it contains any impurities, it does not exceed any of the thresholds of RoHS.

Full text of H indications: see Section 16

Note: components marked as "Not certified" are exempt from registration.

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 CO2, 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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---------------------|----------------------|
| Appearance | Powder |
| Physical state | Solid |
| Color | Yellow |
| 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 90.

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 / cm³) 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

Product Name : Print Cartridge Yellow IM C2500H
SDS Number : 842312
Release Date 2018-08-24 Revision Date 2018-09-01

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Volatility (%) 0.2 or less

10. STABILITY AND REACTIVITY

10.1 Reactivity

Explosion of powders like most organic fine powders.

10.2 Chemical stability

Stable

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

Titanium dioxide contained in this product are 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.

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 Wholesale transport in accordance with MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

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

Product Name : Print Cartridge Yellow IM C2500H
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Release Date 2018-08-24

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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.

IARC (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 Annex XVII

: 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

Product Name : Print Cartridge Yellow IM C2500H
SDS Number : 842312
Release Date 2018-08-24 **Revision Date 2018-09-01**

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Version 2.00

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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