

SAFETY DATA SHEET

Toner Powder (Cartridge) for
C110 Series
C130 Series
MC160 Series

OKI DATA CORPORATION

SAFETY DATA SHEET**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name: Black toner powder (cartridge) for
C110 Series
C130 Series
MC160 Series
(Toner powder name: PRT-2500)

Product description: Black Toner

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

Material uses: For electrophotographic printing systems

1.3 Details of the supplier of the safety data sheet

Manufacturer: OKI Data Corporation
3-1 Futaba-cho, Takasaki-shi, Gunma. 370-8585 Japan
Tel: +81 27-328-6366 Fax: +81-27-328-6398

Supplier: OKI Europe Limited
Blays House, Wick Road, Egham, Surrey, TW20 0HJ, UK
Tel: +44 (0) 208 219 2190 Fax: +44 (0) 208 219 2199
e-mail: SDSQuestions@okieurope.com

1.4 Emergency telephone number

OKI Europe Limited: +44 (0) 208 219 2190
(Supported 09:00 to 17:00 UK Time, Monday to Friday
except Bank Holidays)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition: Mixture
Regulation (EC) No. 1272/2008: Not classified as dangerous.
Hazard Communication Standard (USA): Not classified as dangerous.

2.2 Label elements

Precautionary Pictograms: Not Required
Signal Word: Not Required
Hazard Statement: Not Required
Precautionary Statement: Not Required

2.3 Other hazards

Dust Explosion: This mixture, like most organic powders, can cause a dust explosion if particles form thick clouds.

SAFETY DATA SHEET

SECTION 3: Composition/information on ingredients

Substance/mixture: Mixture

Major Ingredients:

Chemical Identity of the substance	CAS No.	Ranges of % by mass
Styrene acrylic resin	+++	75-85
Wax	+++	10-20
Carbon Black	1333-86-4	1-10
Amorphous silica	7631-86-9	1-10

+++ : Suppliers confidential information

Hazardous Ingredients:

Chemical Name: Carbon Black

CAS No.: 1333-86-4
EINECS-No.: 215-609-9
REACH Registration No.: 01-2119384822-32-XXXX
Symbol (EC): Not Listed
H code (EC): Not Listed
IARC Monographs: Group 2B
NTP (USA): Not Listed
California Proposition 65: Listed
DFG-MAK (Germany): III 3B

SECTION 4: First aid measures**4.1 Description of first aid measures**

Ingestion: Wash mouth out with water. Drink one or two glasses of water. If symptoms occur, get medical attention.
Inhalation: Move victim to fresh air immediately. If symptoms occur, get medical attention.
Eye contact: Flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.
Skin contact: Wash with water and mild soap.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media: Carbon dioxide, Water spray, Foam, Dry chemical
Unsuitable extinguishing media: Full water jet

5.2 Fire and Explosion Hazards

Dust Explosion: This mixture, like most organic powders, is capable of creating an explosive dust when particles are dispersed in air.

5.3 Protection of Firefighters

Use self-contained breathing apparatus. (SCBA)

SAFETY DATA SHEET

SECTION 6: Accidental release measures

6.1 Personal precautions

None

6.2 Environmental precautions

None

6.3 Methods for cleaning up

Wear personal protective equipment (See Section 8). Vacuum or sweep the materials and place in a bag and hold for waste disposal. Use a vacuum cleaner equipped with High Efficiency Particulate Air (HEPA) filter. The vacuum cleaner should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical Measures:	None
Precautions:	Do not breathe dust. Avoid contact with eyes.
Safe Handling Advice:	Try not to disperse the particulates

7.2 Conditions for safe storage, including any incompatibilities

Technical Measures:	None
Storage Conditions:	Keep container closed. Store in a cool and dry place. Keep out of reach of children.
Incompatible Products:	None
Packaging Materials:	Bottles or Cartridge designated by manufacturer.

SAFETY DATA SHEET

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational Exposure Limits:**

Product	Germany DFG MAK	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA PEL
General dust or particulate not otherwise classified	Inhalable fraction: 4.0mg/m ³ Respirable fraction: 1.5mg/m ³	Inhalable dust: 10mg/m ³	Inhalable particulate: 10mg/m ³ Respirable particulate: 3.0mg/m ³	Total dust: 15mg/m ³ Respirable fraction: 5.0mg/m ³

Ingredient	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA Z-Tables
Carbon Black	3mg/m ³	3mg/m ³	3.5mg/m ³

8.2 Exposure controls**Appropriate engineering controls:**

Good general ventilation should be sufficient under normal conditions of use.

Individual Protection Measures, such as Personal Protective Equipment:

Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.

Hygiene Measures:

Wash hands after handling

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance:****Physical State:**

Solid.

Colour:

Black.

Form:

Powder (mean dia. Is 5-10um by volume)

Odour:

Almost odourless.

pH:

Not applicable.

Boiling Point (°C):

Not applicable.

Melting point (°C):

No data available.

Flash Point (°C):

Not applicable.

Auto-ignition Temperature (°C):

No data available.

Upper / Lower Flammability or Explosive Limits:

No data available.

Explosive Properties:

No data available.

Evaporation Rate:

No data available.

Vapour Pressure:

Not applicable.

Vapour Density:

Not applicable.

Specific Gravity:

1.2

Solubility:

Insoluble in water.

Partition Coefficient (n-Octanol/Water):

Not applicable.

Decomposition Temperature:

Not applicable.

SAFETY DATA SHEET

SECTION 10: Stability and reactivity

10.1 Reactivity:	None.
10.2 Chemical stability:	Stable except above 200°C (392°F).
10.3 Possibility of hazardous reactions:	Dust explosion, like most finely divided organic powders.
10.4 Conditions to avoid:	Electric discharge, throwing into fire.
10.5 Incompatible materials:	Oxidising materials.
10.6 Hazardous decomposition products:	CO, CO ₂ , NO and smoke
10.7 Hazardous Polymerisation:	Will not occur.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:**

Ingestion, LD50 (mg/kg):	>2500 (Rat)
Dermal, LD50 (mg/kg):	No data available.
Inhalation, LC50 (mg/l):	>5.10 (Rat, 4hour) (This was the highest attainable concentration.)

Irritation:

Eye irritation:	Non irritant (Rabbit)
Skin irritation:	Non irritant (Rabbit)

Sensitisation:

Skin Sensitiser:	Non sensitiser (Guinea pig)
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Local Effects: see Chronic Toxicity or Long Term Toxicity

Chronic Toxicity or Long Term Toxicity:

In a two year inhalation study of chronic toxicity and carcinogenicity using a typical toner in rats, there were no lung changes at all in the lowest exposure level (1mg/m³), the most relevant level to potential human exposures. A minimal to mild degree of fibrosis was noted in 22% of the animals at the middle exposure level (4mg/m³), and a mild to moderate degree of fibrosis was observed in 92% of the rats at the highest exposure level (16mg/m³). The lung changes observed in the higher exposure groups are interoperated in terms of "lung overloading", a series of generic responses to the presence of large quantities of respirable, insoluble and relatively benign dusts retained for extended time periods in the lungs. Lung tumor frequency was unchanged among rats exposed to toner at the three exposure levels, and for air only controlled rats.

Carcinogenicity:

The IARC re-evaluated Carbon Black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to Carbon Black for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free Carbon Black at levels that induce particle overload of the lung.

Studies performed in animal models other than rats have not demonstrated an association between Carbon Black and lung tumors. Moreover, a two year cancer bioassay using typical toner preparation containing Carbon Black demonstrated no association between toner exposure and tumor development in rats.

Mutagenicity: Negative (AMES test)

Teratogenicity: No data available.

SAFETY DATA SHEET

SECTION 12: Ecological information

No data is available on the adverse effects of this material on the environment.

12.1 Ecotoxicity:	No data available.
12.2 Mobility:	No data available.
12.3 Persistence and degradability:	No data available.
12.4 Bioaccumulative potential:	No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

When disposing of the waste or recovered material, consult all EU, national, regional and/or local regulations for the proper disposal methods.

SECTION 14: Transport information

Information on Code and Classifications According to International Regulations

14.1 UN Classification:	None.
14.2 Further Information:	Not a dangerous good under IATA or IMDG.
14.3 Hazchem code (Australia):	None.

SAFETY DATA SHEET**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****US Information**

TSCA:	All chemical substances in this mixture comply with all applicable rules or order under TSCA.
California Proposition 65:	Ingredient Carbon Black subject to California Proposition 65 is bound in polymer-matrices so that warnings are not required.
CERCLA:	None.
SARA Title III	
Section 302 Extreme Hazardous Substance:	None.
Section 311/312 Hazardous Categories:	None.
Section 313 Reportable Ingredients:	None.

EU Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

- Regulation (EC) No 2037/2000 of the European Parliament and of the Council, on Substances that Deplete the Ozone Layer: Not applicable
- Regulation (EC) No 850/2004 of the European Parliament and of the Council, on Persistent Organic Pollutants and amending Directive 79/117/EEC (POPs): Not applicable
- Regulation (EU) No 649/2012 of the European Parliament and of the Council, Concerning the Export and Import of Dangerous Chemicals (PIC): Not applicable
- Directive 2012/18/EU of the European Parliament and of the Council, on the Control of Major-Accident Hazards Involving Dangerous Substances, amending and subsequently repealing Council Directive 96/82/EC, (Seveso III): Not applicable
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council:
 - Annex XIV – List of Substances Subject to Authorisation: Not applicable
 - Annex XVII – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: Not applicable

For this product a chemical safety assessment was not carried out.

Canada Information

WHMIS: This product is NOT subject to the controlled products regulation.

SAFETY DATA SHEET

SECTION 16: Other information**HMIS Rating:**

The National Paint and Coating Association (USA):

Health:	1
Flammability:	1
Reactivity:	0

Explanation of term: IARC 2B means "possible human carcinogen".

Legend to Abbreviations:

ACGIH-TWA	Threshold Limit Value of American Conference of Government Industrial Hygienists
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DFG-MAK	Maximale Arbeitsplatz-Konzentration by Deutsche Forschungsgemeinschaft
DGR	Dangerous Goods Regulations
EINECS	European Inventory of Existing Commercial Chemical Substances
H-Code	Hazard Code
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Medical Guide for Ships
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bio accumulative and Toxic
SARA	Superfund Amendments and Reauthorisation Act of 1986
TSCA	Toxic Substances Control Act
vPvB	very Persistent and very Bio accumulative
WHMIS	Workplace Hazardous Materials Information System

Literature References:

ANSI Z400.1 – 1993

ISO 11014-1

Commission Directive 91/155/EEC

IARC (2010): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93, Carbon Black, Titanium Dioxide, and Talc, Lyon, pp. 43-191

H.Muhle, B.Bellman, O.Creutzenberg, C.Dasenbrook, H.Ernst, R.Klipper, 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, p.280-299

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

SAFETY DATA SHEET

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

1.1 Product identifier

Product name: Yellow toner powder (cartridge) for
C110 Series
C130 Series
MC160 Series
(Toner powder name: PRT-2510)

Product description: Yellow Toner

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

Material uses: For electrophotographic printing systems

1.3 Details of the supplier of the safety data sheet

Manufacturer: OKI Data Corporation
3-1 Futaba-cho, Takasaki-shi, Gunma. 370-8585 Japan
Tel: +81 27-328-6366 Fax: +81-27-328-6398

Supplier: OKI Europe Limited
Blays House, Wick Road, Egham, Surrey, TW20 0HJ, UK
Tel: +44 (0) 208 219 2190 Fax: +44 (0) 208 219 2199
e-mail: SDSQuestions@okieurope.com

1.4 Emergency telephone number

OKI Europe Limited: +44 (0) 208 219 2190
(Supported 09:00 to 17:00 UK Time, Monday to Friday
except Bank Holidays)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Mixture
Regulation (EC) No. 1272/2008: Not classified as dangerous.
Hazard Communication Standard (USA): Not classified as dangerous.

2.2 Label elements

Precautionary Pictograms: Not Required
Signal Word: Not Required
Hazard Statement: Not Required
Precautionary Statement: Not Required

2.3 Other hazards

Dust Explosion: This mixture, like most organic powders, can cause a dust explosion if particles form thick clouds.

SAFETY DATA SHEET

SECTION 3: Composition/information on ingredients

Substance/mixture: Mixture

Major Ingredients:

Chemical Identity of the substance	CAS No.	Ranges of % by mass
Styrene acrylic resin	+++	75-85
Wax	+++	10-20
Organic Pigment	+++	1-10
Amorphous silica	7631-86-9	1-10
Titanium dioxide	13463-67-7	<1

+++ : Suppliers confidential information

Hazardous Ingredients:

Chemical Name: Titanium dioxide

CAS No.:	13463-67-7
EINECS-No.:	236-675-5
Symbol (EC):	Not Listed
H code (EC):	Not Listed
IARC Monographs:	Group 2B
NTP (USA):	Not Listed

SECTION 4: First aid measures**4.1 Description of first aid measures**

Ingestion:	Wash mouth out with water. Drink one or two glasses of water. If symptoms occur, get medical attention.
Inhalation:	Move victim to fresh air immediately. If symptoms occur, get medical attention.
Eye contact:	Flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.
Skin contact:	Wash with water and mild soap.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media:	Carbon dioxide, Water spray, Foam, Dry chemical
Unsuitable extinguishing media:	Full water jet

5.2 Fire and Explosion Hazards

Dust Explosion:	This mixture, like most organic powders, is capable of creating an explosive dust when particles are dispersed in air.
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5.3 Protection of Firefighters

Use self-contained breathing apparatus. (SCBA)

SAFETY DATA SHEET

SECTION 6: Accidental release measures

6.1 Personal precautions

None

6.2 Environmental precautions

None

6.3 Methods for cleaning up

Wear personal protective equipment (See Section 8). Vacuum or sweep the materials and place in a bag and hold for waste disposal. Use a vacuum cleaner equipped with High Efficiency Particulate Air (HEPA) filter. The vacuum cleaner should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical Measures:	None
Precautions:	Do not breathe dust. Avoid contact with eyes.
Safe Handling Advice:	Try not to disperse the particulates

7.2 Conditions for safe storage, including any incompatibilities

Technical Measures:	None
Storage Conditions:	Keep container closed. Store in a cool and dry place. Keep out of reach of children.
Incompatible Products:	None
Packaging Materials:	Bottles or Cartridge designated by manufacturer.

SAFETY DATA SHEET

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational Exposure Limits:**

Product	Germany DFG MAK	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA PEL
General dust or particulate not otherwise classified	Inhalable fraction: 4.0mg/m ³ Respirable fraction: 1.5mg/m ³	Inhalable dust: 10mg/m ³	Inhalable particulate: 10mg/m ³ Respirable particulate: 3.0mg/m ³	Total dust: 15mg/m ³ Respirable fraction: 5.0mg/m ³

Ingredient	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA Z-Tables
Titanium dioxide	10mg/m ³	10mg/m ³	15mg/m ³

8.2 Exposure controls**Appropriate engineering controls:**

Good general ventilation should be sufficient under normal conditions of use.

Individual Protection Measures, such as Personal Protective Equipment:

Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.

Hygiene Measures:

Wash hands after handling

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance:****Physical State:**

Solid.

Colour:

Yellow.

Form:

Powder (mean dia. Is 5-10um by volume)

Odour:

Almost odourless.

pH:

Not applicable.

Boiling Point (°C):

Not applicable.

Melting point (°C):

No data available.

Flash Point (°C):

Not applicable.

Auto-ignition Temperature (°C):

No data available.

Upper / Lower Flammability or Explosive Limits:

No data available.

Explosive Properties:

No data available.

Evaporation Rate:

No data available.

Vapour Pressure:

Not applicable.

Vapour Density:

Not applicable.

Specific Gravity:

1.2

Solubility:

Insoluble in water.

Partition Coefficient (n-Octanol/Water):

Not applicable.

Decomposition Temperature:

Not applicable.

SAFETY DATA SHEET

SECTION 10: Stability and reactivity

10.1 Reactivity:	None.
10.2 Chemical stability:	Stable except above 200°C (392°F).
10.3 Possibility of hazardous reactions:	Dust explosion, like most finely divided organic powders.
10.4 Conditions to avoid:	Electric discharge, throwing into fire.
10.5 Incompatible materials:	Oxidising materials.
10.6 Hazardous decomposition products:	CO, CO ₂ , NO and smoke
10.7 Hazardous Polymerisation:	Will not occur.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:**

Ingestion, LD50 (mg/kg):	>2500 (Rat)
Dermal, LD50 (mg/kg):	No data available.
Inhalation, LC50 (mg/l):	>5.57 (Rat, 4hour) (This was the highest attainable concentration.)

Irritation:

Eye irritation:	Minimal irritant (Rabbit)
Skin irritation:	Non irritant (Rabbit)

Sensitisation:

Skin Sensitiser:	Non sensitiser (Guinea pig)
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Local Effects: see Chronic Toxicity or Long Term Toxicity

Chronic Toxicity or Long Term Toxicity:

Prolonged inhalation of excessive dust may cause lung damage. It is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.

In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group. But no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

Carcinogenicity:

The IARC re-evaluated Titanium dioxide as a Group 2B (possible human carcinogen). In animal chronic inhalation studies, the tumor formulation observed in only rats with animal chronic inhalation study are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust. Epidemiological studies to date have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

Mutagenicity: Negative (AMES test)

Teratogenicity: No data available.

SAFETY DATA SHEET

SECTION 12: Ecological information

No data is available on the adverse effects of this material on the environment.

12.1 Ecotoxicity:	No data available.
12.2 Mobility:	No data available.
12.3 Persistence and degradability:	No data available.
12.4 Bioaccumulative potential:	No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

When disposing of the waste or recovered material, consult all EU, national, regional and/or local regulations for the proper disposal methods.

SECTION 14: Transport information

Information on Code and Classifications According to International Regulations

14.1 UN Classification:	None.
14.2 Further Information:	Not a dangerous good under IATA or IMDG.
14.3 Hazchem code (Australia):	None.

SAFETY DATA SHEET**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****US Information**

TSCA:	All chemical substances in this mixture comply with all applicable rules or order under TSCA.
California Proposition 65:	This product contains no chemical substances subject to California Proposition 65.
CERCLA:	None.
SARA Title III	
Section 302 Extreme Hazardous Substance:	None.
Section 311/312 Hazardous Categories:	None.
Section 313 Reportable Ingredients:	None.

EU Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

- Regulation (EC) No 2037/2000 of the European Parliament and of the Council, on Substances that Deplete the Ozone Layer: Not applicable
- Regulation (EC) No 850/2004 of the European Parliament and of the Council, on Persistent Organic Pollutants and amending Directive 79/117/EEC (POPs): Not applicable
- Regulation (EU) No 649/2012 of the European Parliament and of the Council, Concerning the Export and Import of Dangerous Chemicals (PIC): Not applicable
- Directive 2012/18/EU of the European Parliament and of the Council, on the Control of Major-Accident Hazards Involving Dangerous Substances, amending and subsequently repealing Council Directive 96/82/EC, (Seveso III): Not applicable
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council:
 - Annex XIV – List of Substances Subject to Authorisation: Not applicable
 - Annex XVII – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: Not applicable

For this product a chemical safety assessment was not carried out.

Canada Information

WHMIS: This product is NOT subject to the controlled products regulation.

SAFETY DATA SHEET

SECTION 16: Other information**HMIS Rating:**

The National Paint and Coating Association (USA):

Health:	1
Flammability:	1
Reactivity:	0

Explanation of term: IARC 2B means "possible human carcinogen".

Legend to Abbreviations:

ACGIH-TWA	Threshold Limit Value of American Conference of Government Industrial Hygienists
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DFG-MAK	Maximale Arbeitsplatz-Konzentration by Deutsche Forschungsgemeinschaft
DGR	Dangerous Goods Regulations
EINECS	European Inventory of Existing Commercial Chemical Substances
H-Code	Hazard Code
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Medical Guide for Ships
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bio accumulative and Toxic
SARA	Superfund Amendments and Reauthorisation Act of 1986
TSCA	Toxic Substances Control Act
vPvB	very Persistent and very Bio accumulative
WHMIS	Workplace Hazardous Materials Information System

Literature References:

ANSI Z400.1 – 1993

ISO 11014-1

Commission Directive 91/155/EEC

IARC (2010): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93, Carbon Black, Titanium Dioxide, and Talc, Lyon, pp. 43-191

H.Muhle, B.Bellman, O.Creutzenberg, C.Dasenbrook, H.Ernst, R.Klipper, 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, p.280-299

NIOSH Current Intelligence Bulletin: Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide: Draft

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

SAFETY DATA SHEET**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name: Magenta toner powder (cartridge) for
C110 Series
C130 Series
MC160 Series
(Toner powder name: PRT-2520)

Product description: Magenta Toner

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

Material uses: For electrophotographic printing systems

1.3 Details of the supplier of the safety data sheet

Manufacturer: OKI Data Corporation
3-1 Futaba-cho, Takasaki-shi, Gunma. 370-8585 Japan
Tel: +81 27-328-6366 Fax: +81-27-328-6398

Supplier: OKI Europe Limited
Blays House, Wick Road, Egham, Surrey, TW20 0HJ, UK
Tel: +44 (0) 208 219 2190 Fax: +44 (0) 208 219 2199
e-mail: SDSQuestions@okieurope.com

1.4 Emergency telephone number

OKI Europe Limited: +44 (0) 208 219 2190
(Supported 09:00 to 17:00 UK Time, Monday to Friday
except Bank Holidays)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition: Mixture
Regulation (EC) No. 1272/2008: Not classified as dangerous.
Hazard Communication Standard (USA): Not classified as dangerous.

2.2 Label elements

Precautionary Pictograms: Not Required
Signal Word: Not Required
Hazard Statement: Not Required
Precautionary Statement: Not Required

2.3 Other hazards

Dust Explosion: This mixture, like most organic powders, can cause a dust explosion if particles form thick clouds.

SAFETY DATA SHEET

SECTION 3: Composition/information on ingredients

Substance/mixture: Mixture

Major Ingredients:

Chemical Identity of the substance	CAS No.	Ranges of % by mass
Styrene acrylic resin	+++	70-80
Wax	+++	10-20
Organic Pigment 1	+++	1-10
Organic Pigment 2	+++	1-10
Amorphous silica	7631-86-9	1-10
Titanium dioxide	13463-67-7	<1

+++ : Suppliers confidential information

Hazardous Ingredients:

Chemical Name: Titanium dioxide

CAS No.: 13463-67-7
EINECS-No.: 236-675-5
Symbol (EC): Not Listed
H code (EC): Not Listed
IARC Monographs: Group 2B
NTP (USA): Not Listed

SECTION 4: First aid measures

4.1 Description of first aid measures

Ingestion: Wash mouth out with water. Drink one or two glasses of water. If symptoms occur, get medical attention.
Inhalation: Move victim to fresh air immediately. If symptoms occur, get medical attention.
Eye contact: Flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.
Skin contact: Wash with water and mild soap.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide, Water spray, Foam, Dry chemical
Unsuitable extinguishing media: Full water jet

5.2 Fire and Explosion Hazards

Dust Explosion: This mixture, like most organic powders, is capable of creating an explosive dust when particles are dispersed in air.

5.3 Protection of Firefighters

Use self-contained breathing apparatus. (SCBA)

SAFETY DATA SHEET

SECTION 6: Accidental release measures

6.1 Personal precautions

None

6.2 Environmental precautions

None

6.3 Methods for cleaning up

Wear personal protective equipment (See Section 8). Vacuum or sweep the materials and place in a bag and hold for waste disposal. Use a vacuum cleaner equipped with High Efficiency Particulate Air (HEPA) filter. The vacuum cleaner should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical Measures:	None
Precautions:	Do not breathe dust. Avoid contact with eyes.
Safe Handling Advice:	Try not to disperse the particulates

7.2 Conditions for safe storage, including any incompatibilities

Technical Measures:	None
Storage Conditions:	Keep container closed. Store in a cool and dry place. Keep out of reach of children.
Incompatible Products:	None
Packaging Materials:	Bottles or Cartridge designated by manufacturer.

SAFETY DATA SHEET

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational Exposure Limits:**

Product	Germany DFG MAK	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA PEL
General dust or particulate not otherwise classified	Inhalable fraction: 4.0mg/m ³ Respirable fraction: 1.5mg/m ³	Inhalable dust: 10mg/m ³	Inhalable particulate: 10mg/m ³ Respirable particulate: 3.0mg/m ³	Total dust: 15mg/m ³ Respirable fraction: 5.0mg/m ³

Ingredient	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA Z-Tables
Titanium dioxide	10mg/m ³	10mg/m ³	15mg/m ³

8.2 Exposure controls**Appropriate engineering controls:**

Good general ventilation should be sufficient under normal conditions of use.

Individual Protection Measures, such as Personal Protective Equipment:

Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.

Hygiene Measures:

Wash hands after handling

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance:****Physical State:**

Solid.

Colour:

Red.

Form:

Powder (mean dia. Is 5-10um by volume)

Odour:

Almost odourless.

pH:

Not applicable.

Boiling Point (°C):

Not applicable.

Melting point (°C):

No data available.

Flash Point (°C):

Not applicable.

Auto-ignition Temperature (°C):

No data available.

Upper / Lower Flammability or Explosive Limits:

No data available.

Explosive Properties:

No data available.

Evaporation Rate:

No data available.

Vapour Pressure:

Not applicable.

Vapour Density:

Not applicable.

Specific Gravity:

1.2

Solubility:

Insoluble in water.

Partition Coefficient (n-Octanol/Water):

Not applicable.

Decomposition Temperature:

Not applicable.

SAFETY DATA SHEET

SECTION 10: Stability and reactivity

10.1 Reactivity:	None.
10.2 Chemical stability:	Stable except above 200°C (392°F).
10.3 Possibility of hazardous reactions:	Dust explosion, like most finely divided organic powders.
10.4 Conditions to avoid:	Electric discharge, throwing into fire.
10.5 Incompatible materials:	Oxidising materials.
10.6 Hazardous decomposition products:	CO, CO ₂ , NO and smoke
10.7 Hazardous Polymerisation:	Will not occur.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:**

Ingestion, LD50 (mg/kg):	>2500 (Rat)
Dermal, LD50 (mg/kg):	No data available.
Inhalation, LC50 (mg/l):	>4.77 (Rat, 4hour) (This was the highest attainable concentration.)

Irritation:

Eye irritation:	Minimal irritant (Rabbit)
Skin irritation:	Non irritant (Rabbit)

Sensitisation:

Skin Sensitiser:	Non sensitiser (Guinea pig)
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Local Effects: see Chronic Toxicity or Long Term Toxicity

Chronic Toxicity or Long Term Toxicity:

Prolonged inhalation of excessive dust may cause lung damage. It is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.

In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group. But no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

Carcinogenicity:

The IARC re-evaluated Titanium dioxide as a Group 2B (possible human carcinogen). In animal chronic inhalation studies, the tumor formulation observed in only rats with animal chronic inhalation study are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust. Epidemiological studies to date have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

Mutagenicity: Negative (AMES test)

Teratogenicity: No data available.

SAFETY DATA SHEET

SECTION 12: Ecological information

No data is available on the adverse effects of this material on the environment.

12.1 Ecotoxicity:	No data available.
12.2 Mobility:	No data available.
12.3 Persistence and degradability:	No data available.
12.4 Bioaccumulative potential:	No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

When disposing of the waste or recovered material, consult all EU, national, regional and/or local regulations for the proper disposal methods.

SECTION 14: Transport information

Information on Code and Classifications According to International Regulations

14.1 UN Classification:	None.
14.2 Further Information:	Not a dangerous good under IATA or IMDG.
14.3 Hazchem code (Australia):	None.

SAFETY DATA SHEET**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****US Information**

TSCA:	All chemical substances in this mixture comply with all applicable rules or order under TSCA.
California Proposition 65:	This product contains no chemical substances subject to California Proposition 65.
CERCLA:	None.
SARA Title III	
Section 302 Extreme Hazardous Substance:	None.
Section 311/312 Hazardous Categories:	None.
Section 313 Reportable Ingredients:	None.

EU Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

- Regulation (EC) No 2037/2000 of the European Parliament and of the Council, on Substances that Deplete the Ozone Layer: Not applicable
- Regulation (EC) No 850/2004 of the European Parliament and of the Council, on Persistent Organic Pollutants and amending Directive 79/117/EEC (POPs): Not applicable
- Regulation (EU) No 649/2012 of the European Parliament and of the Council, Concerning the Export and Import of Dangerous Chemicals (PIC): Not applicable
- Directive 2012/18/EU of the European Parliament and of the Council, on the Control of Major-Accident Hazards Involving Dangerous Substances, amending and subsequently repealing Council Directive 96/82/EC, (Seveso III): Not applicable
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council:
 - Annex XIV – List of Substances Subject to Authorisation: Not applicable
 - Annex XVII – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: Not applicable

For this product a chemical safety assessment was not carried out.

Canada Information

WHMIS: This product is NOT subject to the controlled products regulation.

SAFETY DATA SHEET

SECTION 16: Other information**HMIS Rating:**

The National Paint and Coating Association (USA):

Health:	1
Flammability:	1
Reactivity:	0

Explanation of term: IARC 2B means "possible human carcinogen".

Legend to Abbreviations:

ACGIH-TWA	Threshold Limit Value of American Conference of Government Industrial Hygienists
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DFG-MAK	Maximale Arbeitsplatz-Konzentration by Deutsche Forschungsgemeinschaft
DGR	Dangerous Goods Regulations
EINECS	European Inventory of Existing Commercial Chemical Substances
H-Code	Hazard Code
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Medical Guide for Ships
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bio accumulative and Toxic
SARA	Superfund Amendments and Reauthorisation Act of 1986
TSCA	Toxic Substances Control Act
vPvB	very Persistent and very Bio accumulative
WHMIS	Workplace Hazardous Materials Information System

Literature References:

ANSI Z400.1 – 1993

ISO 11014-1

Commission Directive 91/155/EEC

IARC (2010): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93, Carbon Black, Titanium Dioxide, and Talc, Lyon, pp. 43-191

H.Muhle, B.Bellman, O.Creutzenberg, C.Dasenbrook, H.Ernst, R.Klipper, 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, p.280-299

NIOSH Current Intelligence Bulletin: Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide: Draft

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

SAFETY DATA SHEET**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name: Cyan toner powder (cartridge) for
C110 Series
C130 Series
MC160 Series
(Toner powder name: PRT-2530)

Product description: Cyan Toner

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

Material uses: For electrophotographic printing systems

1.3 Details of the supplier of the safety data sheet

Manufacturer: OKI Data Corporation
3-1 Futaba-cho, Takasaki-shi, Gunma. 370-8585 Japan
Tel: +81 27-328-6366 Fax: +81-27-328-6398

Supplier: OKI Europe Limited
Blays House, Wick Road, Egham, Surrey, TW20 0HJ, UK
Tel: +44 (0) 208 219 2190 Fax: +44 (0) 208 219 2199
e-mail: SDSQuestions@okieurope.com

1.4 Emergency telephone number

OKI Europe Limited: +44 (0) 208 219 2190
(Supported 09:00 to 17:00 UK Time, Monday to Friday
except Bank Holidays)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition: Mixture
Regulation (EC) No. 1272/2008: Not classified as dangerous.
Hazard Communication Standard (USA): Not classified as dangerous.

2.2 Label elements

Precautionary Pictograms: Not Required
Signal Word: Not Required
Hazard Statement: Not Required
Precautionary Statement: Not Required

2.3 Other hazards

Dust Explosion: This mixture, like most organic powders, can cause a dust explosion if particles form thick clouds.

SAFETY DATA SHEET

SECTION 3: Composition/information on ingredients

Substance/mixture: Mixture

Major Ingredients:

Chemical Identity of the substance	CAS No.	Ranges of % by mass
Styrene acrylic resin	+++	75-85
Wax	+++	10-20
Organic Pigment	147-14-8	1-10
Amorphous silica	7631-86-9	1-10
Titanium dioxide	13463-67-7	<1

+++ : Suppliers confidential information

Hazardous Ingredients:

Chemical Name: Titanium dioxide

CAS No.:	13463-67-7
EINECS-No.:	236-675-5
Symbol (EC):	Not Listed
H code (EC):	Not Listed
IARC Monographs:	Group 2B
NTP (USA):	Not Listed

SECTION 4: First aid measures**4.1 Description of first aid measures**

Ingestion:	Wash mouth out with water. Drink one or two glasses of water. If symptoms occur, get medical attention.
Inhalation:	Move victim to fresh air immediately. If symptoms occur, get medical attention.
Eye contact:	Flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.
Skin contact:	Wash with water and mild soap.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media:	Carbon dioxide, Water spray, Foam, Dry chemical
Unsuitable extinguishing media:	Full water jet

5.2 Fire and Explosion Hazards

Dust Explosion:	This mixture, like most organic powders, is capable of creating an explosive dust when particles are dispersed in air.
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5.3 Protection of Firefighters

Use self-contained breathing apparatus. (SCBA)

SAFETY DATA SHEET

SECTION 6: Accidental release measures

6.1 Personal precautions

None

6.2 Environmental precautions

None

6.3 Methods for cleaning up

Wear personal protective equipment (See Section 8). Vacuum or sweep the materials and place in a bag and hold for waste disposal. Use a vacuum cleaner equipped with High Efficiency Particulate Air (HEPA) filter. The vacuum cleaner should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical Measures:	None
Precautions:	Do not breathe dust. Avoid contact with eyes.
Safe Handling Advice:	Try not to disperse the particulates

7.2 Conditions for safe storage, including any incompatibilities

Technical Measures:	None
Storage Conditions:	Keep container closed. Store in a cool and dry place. Keep out of reach of children.
Incompatible Products:	None
Packaging Materials:	Bottles or Cartridge designated by manufacturer.

SAFETY DATA SHEET

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational Exposure Limits:**

Product	Germany DFG MAK	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA PEL
General dust or particulate not otherwise classified	Inhalable fraction: 4.0mg/m ³ Respirable fraction: 1.5mg/m ³	Inhalable dust: 10mg/m ³	Inhalable particulate: 10mg/m ³ Respirable particulate: 3.0mg/m ³	Total dust: 15mg/m ³ Respirable fraction: 5.0mg/m ³

Ingredient	Australia Worksafe-TWA	USA ACGIH-TLV	USA OSHA Z-Tables
Titanium dioxide	10mg/m ³	10mg/m ³	15mg/m ³

8.2 Exposure controls**Appropriate engineering controls:**

Good general ventilation should be sufficient under normal conditions of use.

Individual Protection Measures, such as Personal Protective Equipment:

Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.

Hygiene Measures:

Wash hands after handling

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance:****Physical State:**

Solid.

Colour:

Cyan.

Form:

Powder (mean dia. Is 5-10um by volume)

Odour:

Almost odourless.

pH:

Not applicable.

Boiling Point (°C):

Not applicable.

Melting point (°C):

No data available.

Flash Point (°C):

Not applicable.

Auto-ignition Temperature (°C):

No data available.

Upper / Lower Flammability or Explosive Limits:

No data available.

Explosive Properties:

No data available.

Evaporation Rate:

No data available.

Vapour Pressure:

Not applicable.

Vapour Density:

Not applicable.

Specific Gravity:

1.2

Solubility:

Insoluble in water.

Partition Coefficient (n-Octanol/Water):

Not applicable.

Decomposition Temperature:

Not applicable.

SAFETY DATA SHEET**SECTION 10: Stability and reactivity**

10.1 Reactivity:	None.
10.2 Chemical stability:	Stable except above 200°C (392°F).
10.3 Possibility of hazardous reactions:	Dust explosion, like most finely divided organic powders.
10.4 Conditions to avoid:	Electric discharge, throwing into fire.
10.5 Incompatible materials:	Oxidising materials.
10.6 Hazardous decomposition products:	CO, CO ₂ , NO and smoke
10.7 Hazardous Polymerisation:	Will not occur.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:**

Ingestion, LD50 (mg/kg):	>2500 (Rat)
Dermal, LD50 (mg/kg):	No data available.
Inhalation, LC50 (mg/l):	>5.08 (Rat, 4hour) (This was the highest attainable concentration.)

Irritation:

Eye irritation:	Minimal irritant (Rabbit)
Skin irritation:	Non irritant (Rabbit)

Sensitisation:

Skin Sensitiser:	Non sensitiser (Guinea pig)
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Local Effects: see Chronic Toxicity or Long Term Toxicity

Chronic Toxicity or Long Term Toxicity:

Prolonged inhalation of excessive dust may cause lung damage. It is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.

In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group. But no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

Carcinogenicity:

The IARC re-evaluated Titanium dioxide as a Group 2B (possible human carcinogen). In animal chronic inhalation studies, the tumor formulation observed in only rats with animal chronic inhalation study are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust. Epidemiological studies to date have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

Mutagenicity: Negative (AMES test)

Teratogenicity: No data available.

SAFETY DATA SHEET

SECTION 12: Ecological information

No data is available on the adverse effects of this material on the environment.

12.1 Ecotoxicity:	No data available.
12.2 Mobility:	No data available.
12.3 Persistence and degradability:	No data available.
12.4 Bioaccumulative potential:	No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

When disposing of the waste or recovered material, consult all EU, national, regional and/or local regulations for the proper disposal methods.

SECTION 14: Transport information

Information on Code and Classifications According to International Regulations

14.1 UN Classification:	None.
14.2 Further Information:	Not a dangerous good under IATA or IMDG.
14.3 Hazchem code (Australia):	None.

SAFETY DATA SHEET

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****US Information**

TSCA:	All chemical substances in this mixture comply with all applicable rules or order under TSCA.
California Proposition 65:	This product contains no chemical substances subject to California Proposition 65.
CERCLA:	None.
SARA Title III	
Section 302 Extreme Hazardous Substance:	None.
Section 311/312 Hazardous Categories:	None.
Section 313 Reportable Ingredients:	None.

EU Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

- Regulation (EC) No 2037/2000 of the European Parliament and of the Council, on Substances that Deplete the Ozone Layer: Not applicable
- Regulation (EC) No 850/2004 of the European Parliament and of the Council, on Persistent Organic Pollutants and amending Directive 79/117/EEC (POPs): Not applicable
- Regulation (EU) No 649/2012 of the European Parliament and of the Council, Concerning the Export and Import of Dangerous Chemicals (PIC): Not applicable
- Directive 2012/18/EU of the European Parliament and of the Council, on the Control of Major-Accident Hazards Involving Dangerous Substances, amending and subsequently repealing Council Directive 96/82/EC, (Seveso III): Not applicable
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council:
 - Annex XIV – List of Substances Subject to Authorisation: Not applicable
 - Annex XVII – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: Not applicable

For this product a chemical safety assessment was not carried out.

Canada Information

WHMIS: This product is NOT subject to the controlled products regulation.

SAFETY DATA SHEET

SECTION 16: Other information**HMIS Rating:**

The National Paint and Coating Association (USA):

Health:	1
Flammability:	1
Reactivity:	0

Explanation of term: IARC 2B means "possible human carcinogen".

Legend to Abbreviations:

ACGIH-TWA	Threshold Limit Value of American Conference of Government Industrial Hygienists
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DFG-MAK	Maximale Arbeitsplatz-Konzentration by Deutsche Forschungsgemeinschaft
DGR	Dangerous Goods Regulations
EINECS	European Inventory of Existing Commercial Chemical Substances
H-Code	Hazard Code
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Medical Guide for Ships
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bio accumulative and Toxic
SARA	Superfund Amendments and Reauthorisation Act of 1986
TSCA	Toxic Substances Control Act
vPvB	very Persistent and very Bio accumulative
WHMIS	Workplace Hazardous Materials Information System

Literature References:

ANSI Z400.1 – 1993

ISO 11014-1

Commission Directive 91/155/EEC

IARC (2010): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93, Carbon Black, Titanium Dioxide, and Talc, Lyon, pp. 43-191

H.Muhle, B.Bellman, O.Creutzenberg, C.Dasenbrook, H.Ernst, R.Klipper, 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, p.280-299

NIOSH Current Intelligence Bulletin: Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide: Draft

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product