

MATERIAL SAFETY DATA SHEET

Date: June 1, 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Cyan Toner for
P-C3061DN, P-C3060 MFP, P-C3065 MFP

Manufacturer
Name: KYOCERA Document Solutions Inc.
Address: 2-28, 1-Chrome, Tamatsukuri, Chuo-ku540-8585,
Japan

Supplier
Name: TA Triumph-Adler GmbH
Address: Ohechaussee 235, 22848 Norderstedt, Germany
Telephone number: +49 (0) 40 / 528490

2. HAZARDS IDENTIFICATION

Most important hazards: Not classified as dangerous (1999/45/EC)
Specific hazards: None
Other information on hazards: Potential health effects
Ingestion: Use of this product as intended does not result in ingestion of toner.
Inhalation: Prolonged inhalation of excessive dusts may cause lung damage. Use of this product, as intended, does not result in inhalation of excessive dusts.
Eye contact: May cause transient eye irritation.
Skin contact: Unlikely to cause skin irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation; Preparation ingredients

Chemical name (Common name)	CAS No.	%
Polyester resin (2 kinds)	Confidential	75 – 85
Organic pigment	Confidential	1 – 5
Amorphous silica	7631-86-9	1 – 5
Titanium dioxide	13463-67-7	<1

Information of ingredients:

PBT or vPvB substance under regulation (EC) No 1907/2006: None

Substance listed in candidate list of SVHC for authorisation under Regulation (EC) No 1907/2006: None

4. FIRST-AID MEASURES

Inhalation: Remove from exposure to fresh air and gargle with plenty of water. Consult a doctor in case of such symptoms as coughing.
Skin contact: Wash with soap and water.
Eye contact: Flush with water immediately and see a doctor if irritating.
Ingestion: Rinse out the mouth. Drink one or two glasses of water to dilute. Seek medical treatment if necessary.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Water (Sprinkle with water), foam, powder, CO₂ or dry chemical extinguisher

Fire-fighting procedure:

Pay attention not to blow away toner powder. Drain water off around and decrease the atmosphere temperature to extinguish the fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid inhalation, ingestion, eye and skin contact in case of accidental toner release.
 Environmental precautions: Do not release into drains and surface water.
 Method for cleaning up: Gather the released toner not to blow away and to wipe up with a wet cloth.

7. HANDLING AND STORAGE

Handling: Never open the toner container.
 Storage: Keep toner container tightly closed and store in a cool, dry and dark place keeping away from fire. Keep away from children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH-TLV₍₂₎-TWA: Inhalable fraction 10 mg/m³, Respirable fraction 3 mg/m³, Titanium dioxide 10 mg/m³
 OSHA-PEL₍₃₎-TWA: Amorphous silica 80 mg/m³/SiO₂, Total dust 15 mg/m³, Respirable fraction 5 mg/m³, Titanium dioxide 15 mg/m³ (Total dust)
 DFG-MAK: Inhalable fraction 4 mg/m³, Amorphous silica 4 mg/m³ (Inhalable fraction)
 Protective equipment: Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal use.
 Ventilation: Ventilator is not required under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
 Form: Fine powder
 Colour: Cyan
 Odor: Odorless
 pH: N.A.
 Melting point: 100-120 °C
 Explosion properties: Dust explosion is improbable under normal use. Experimental explosiveness of toner is classified into the same rank such kind of powder as flour, dry milk and resin powder according to the pressure rising speed.
 Density: 1.2 - 1.4 g/cm³
 Solubility: Almost insoluble in water

10. STABILITY AND REACTIVITY

Stability / Reactivity: Stable under normal use.
 Hazardous decomposition products: None

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity:	(rat) LD ₅₀ >2,000 mg/kg*
Acute dermal toxicity:	(rat) LD ₅₀ >2,000 mg/kg (Estimated from acute oral toxicity for same products)
Acute inhalation toxicity:	(rat) LC ₅₀ (4hr)>5.0 mg/l*
Acute eye irritation:	(rabbit) Minimal irritant*
Acute skin irritation:	(rabbit) Non-irritant*
Skin sensitisation:	(mouse) Non-sensitiser*
Mutagenicity:	AMES Test is negative
Information of ingredients:	No mutagen, according to MAK, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Reproductive toxicity:	
Information of ingredients:	No reproductive toxicant, according to MAK, California Proposition 65, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Carcinogenicity:	
Information of ingredients:	No carcinogen or potential carcinogen, (except titanium dioxide) according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 and (EC) No 1272/2008 Annex VI Table 3.2..

*Estimated from other products containing same materials.

The IARC re-evaluated titanium dioxide as a group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure test in rats. But, oral/skin test does not show carcinogenicity. ⁽⁴⁾ In the animal chronic inhalation studies for titanium dioxide, the lung tumour was observed in only rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon). ⁽⁵⁾ The inhalation of excessive titanium dioxide does not occur in normal use of this product. Also, epidemiological studies to date have not revealed any evidence of relation between occupational exposure to titanium dioxide and respiratory tract diseases.

Chronic effects:

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 (16 mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4 mg/m³) exposure group. ⁽¹⁾ But no pulmonary change was reported in the lowest (1 mg/m³) exposure group, the most relevant potential human exposures.

Other information: None

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Do not attempt to incinerate the toner container or unit and the waste toner yourself. Dangerous sparks may cause burn. Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

UN No.:	None
UN shipping name:	None
UN classification:	None
UN packing group:	None
Special precautions:	None

15. REGULATORY INFORMATION

EU Information

Label information according to the Directives 67/548/EEC and 1999/45/EEC.

Symbol and indication:	Not required
R-Phrase:	Not required
S-Phrase:	Not required
Special markings:	Not required
Hazardous ingredients for labelling:	None

US Information

All components in this product comply with order under TSCA.

16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.

- (1) Pulmonary response to toner upon chronic inhalation exposure in rats H. Muhle et. al
Fundamental and Applied Toxicology 17.280-299 (1991)
Lung clearance and retention of toner, utilizing a tracer technique, during chronic inhalation exposure in rats B. Bellmann
Fundamental and Applied Toxicology 17.300-313 (1991)
- (2) ACGIH TLV (Threshold Limit Values)
- (3) OSHA PEL (Permissible Exposure Limits)
- (4) IARC Monograph on the evaluation of the carcinogenic risk of chemicals to humans, Vol. 93
- (5) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of health hazard and recommendation for occupational exposure to Titanium Dioxide DRAFT"

ISO 11014-1 Safety data sheet for chemical products

Regulation (EC) No 1907/2006

Abbreviation:

ACGIH:	American Conference of Governmental Industrial Hygienists
EC No. 1272/2008 Annex VI Table 3.2:	Regulation on classification, labelling and packaging of substances and mixture (CLP) Annex VI Table 3.2.
EPA:	Environmental Protections Agency (USA)
IARC :	International Agency for Research on Cancer
MAK:	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
Proposition 65:	California, Safe drinking water and toxic enforcement act of 1986
TRGS905:	Technische Regeln für Gefahrenstoffe (Deutsche)
TSCA:	Toxic Substances Control Act (USA)
TWA:	Time Weighted Average
UN:	United Nations

MATERIAL SAFETY DATA SHEET

Date: June 1, 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Magenta Toner for
P-C3061DN, P-C3060 MFP, P-C3065 MFP

Manufacturer
Name: KYOCERA Document Solutions Inc.
Address: 2-28, 1-Chrome, Tamatsukuri, Chuo-ku540-8585,
Japan

Supplier
Name: TA Triumph-Adler GmbH
Address: Ohechaussee 235, 22848 Norderstedt, Germany
Telephone number: +49 (0) 40 / 528490

2. HAZARDS IDENTIFICATION

Most important hazards: Not classified as dangerous (1999/45/EC)
Specific hazards: None
Other information on hazards: Potential health effects
Ingestion: Use of this product as intended does not result in ingestion of toner.
Inhalation: Prolonged inhalation of excessive dusts may cause lung damage. Use of this product, as intended, does not result in inhalation of excessive dusts.
Eye contact: May cause transient eye irritation.
Skin contact: Unlikely to cause skin irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation; Preparation ingredients

Chemical name (Common name)	CAS No.	%
Polyester resin (2 kinds)	Confidential	75 – 85
Organic pigment	Confidential	1 – 5
Amorphous silica	7631-86-9	1 – 5
Titanium dioxide	13463-67-7	<1

Information of ingredients:

PBT or vPvB substance under regulation (EC) No 1907/2006: None

Substance listed in candidate list of SVHC for authorisation under Regulation (EC) No 1907/2006: None

4. FIRST-AID MEASURES

Inhalation: Remove from exposure to fresh air and gargle with plenty of water. Consult a doctor in case of such symptoms as coughing.
Skin contact: Wash with soap and water.
Eye contact: Flush with water immediately and see a doctor if irritating.
Ingestion: Rinse out the mouth. Drink one or two glasses of water to dilute. Seek medical treatment if necessary.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Water (Sprinkle with water), foam, powder, CO₂ or dry chemical extinguisher

Fire-fighting procedure:

Pay attention not to blow away toner powder. Drain water off around and decrease the atmosphere temperature to extinguish the fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid inhalation, ingestion, eye and skin contact in case of accidental toner release.
Environmental precautions: Do not release into drains and surface water.
Method for cleaning up: Gather the released toner not to blow away and to wipe up with a wet cloth.

7. HANDLING AND STORAGE

Handling: Never open the toner container.
Storage: Keep toner container tightly closed and store in a cool, dry and dark place keeping away from fire.
Keep away from children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH-TLV₍₂₎-TWA: Inhalable fraction 10 mg/m³, Respirable fraction 3 mg/m³, Titanium dioxide 10 mg/m³
OSHA-PEL₍₃₎-TWA: Amorphous silica 80 mg/m³/SiO₂, Total dust 15 mg/m³, Respirable fraction 5 mg/m³, Titanium dioxide 15 mg/m³ (Total dust)
DFG-MAK: Inhalable fraction 4 mg/m³, Amorphous silica 4 mg/m³ (Inhalable fraction)
Protective equipment: Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal use.
Ventilation: Ventilator is not required under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
Form: Fine powder
Colour: Magenta
Odor: Odorless
pH: N.A.
Melting point: 100-120 °C
Explosion properties: Dust explosion is improbable under normal use.
Experimental explosiveness of toner is classified into the same rank such kind of powder as flour, dry milk and resin powder according to the pressure rising speed.
Density: 1.2 - 1.4 g/cm³
Solubility: Almost insoluble in water

10. STABILITY AND REACTIVITY

Stability / Reactivity: Stable under normal use.
Hazardous decomposition products: None

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity:	(rat) LD ₅₀ >2,000 mg/kg*
Acute dermal toxicity:	(rat) LD ₅₀ >2,000 mg/kg (Estimated from acute oral toxicity for same products)
Acute inhalation toxicity:	(rat) LC ₅₀ (4hr)>5.0 mg/l*
Acute eye irritation:	(rabbit) Minimal irritant*
Acute skin irritation:	(rabbit) Non-irritant*
Skin sensitisation:	(mouse) Non-sensitiser*
Mutagenicity:	AMES Test is negative
Information of ingredients:	No mutagen, according to MAK, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Reproductive toxicity:	
Information of ingredients:	No reproductive toxicant, according to MAK, California Proposition 65, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Carcinogenicity:	
Information of ingredients:	No carcinogen or potential carcinogen, (except titanium dioxide) according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 and (EC) No 1272/2008 Annex VI Table 3.2..

*Estimated from other products containing same materials.

The IARC re-evaluated titanium dioxide as a group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure test in rats. But, oral/skin test does not show carcinogenicity. ⁽⁴⁾ In the animal chronic inhalation studies for titanium dioxide, the lung tumour was observed in only rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon). ⁽⁵⁾ The inhalation of excessive titanium dioxide does not occur in normal use of this product. Also, epidemiological studies to date have not revealed any evidence of relation between occupational exposure to titanium dioxide and respiratory tract diseases.

Chronic effects:

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 (16 mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4 mg/m³) exposure group. ⁽¹⁾ But no pulmonary change was reported in the lowest (1 mg/m³) exposure group, the most relevant potential human exposures.

Other information: None

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Do not attempt to incinerate the toner container or unit and the waste toner yourself. Dangerous sparks may cause burn. Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

UN No.:	None
UN shipping name:	None
UN classification:	None
UN packing group:	None
Special precautions:	None

15. REGULATORY INFORMATION

EU Information

Label information according to the Directives 67/548/EEC and 1999/45/EEC.

Symbol and indication:	Not required
R-Phrase:	Not required
S-Phrase:	Not required
Special markings:	Not required
Hazardous ingredients for labelling:	None

US Information

All components in this product comply with order under TSCA.

16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.

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Fundamental and Applied Toxicology 17.280-299 (1991)
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MAK:	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
Proposition 65:	California, Safe drinking water and toxic enforcement act of 1986
TRGS905:	Technische Regeln für Gefahrenstoffe (Deutsche)
TSCA:	Toxic Substances Control Act (USA)
TWA:	Time Weighted Average
UN:	United Nations

MATERIAL SAFETY DATA SHEET

Date: June 1, 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Yellow Toner for
 P-C3061DN, P-C3060 MFP, P-C3065 MFP

Manufacturer
 Name: KYOCERA Document Solutions Inc.
 Address: 2-28, 1-Chrome, Tamatsukuri, Chuo-ku540-8585,
 Japan

Supplier
 Name: TA Triumph-Adler GmbH
 Address: Ohechaussee 235, 22848 Norderstedt, Germany
 Telephone number: +49 (0) 40 / 528490

2. HAZARDS IDENTIFICATION

Most important hazards: Not classified as dangerous (1999/45/EC)
 Specific hazards: None
 Other information on hazards: Potential health effects
 Ingestion: Use of this product as intended does not result in ingestion of toner.
 Inhalation: Prolonged inhalation of excessive dusts may cause lung damage. Use of this product, as intended, does not result in inhalation of excessive dusts.
 Eye contact: May cause transient eye irritation.
 Skin contact: Unlikely to cause skin irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation; Preparation ingredients

Chemical name (Common name)	CAS No.	%
Polyester resin (2 kinds)	Confidential	75 – 85
Organic pigment	Confidential	1 – 5
Amorphous silica	7631-86-9	1 – 5
Titanium dioxide	13463-67-7	<1

Information of ingredients:

PBT or vPvB substance under regulation (EC) No 1907/2006: None

Substance listed in candidate list of SVHC for authorisation under Regulation (EC) No 1907/2006: None

4. FIRST-AID MEASURES

Inhalation: Remove from exposure to fresh air and gargle with plenty of water. Consult a doctor in case of such symptoms as coughing.
 Skin contact: Wash with soap and water.
 Eye contact: Flush with water immediately and see a doctor if irritating.
 Ingestion: Rinse out the mouth. Drink one or two glasses of water to dilute. Seek medical treatment if necessary.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Water (Sprinkle with water), foam, powder, CO₂ or dry chemical extinguisher

Fire-fighting procedure:

Pay attention not to blow away toner powder. Drain water off around and decrease the atmosphere temperature to extinguish the fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid inhalation, ingestion, eye and skin contact in case of accidental toner release.
 Environmental precautions: Do not release into drains and surface water.
 Method for cleaning up: Gather the released toner not to blow away and to wipe up with a wet cloth.

7. HANDLING AND STORAGE

Handling: Never open the toner container.
 Storage: Keep toner container tightly closed and store in a cool, dry and dark place keeping away from fire. Keep away from children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH-TLV₍₂₎-TWA: Inhalable fraction 10 mg/m³, Respirable fraction 3 mg/m³, Titanium dioxide 10 mg/m³
 OSHA-PEL₍₃₎-TWA: Amorphous silica 80 mg/m³/%SiO₂, Total dust 15 mg/m³, Respirable fraction 5 mg/m³, Titanium dioxide 15 mg/m³ (Total dust)
 DFG-MAK: Inhalable fraction 4 mg/m³, Amorphous silica 4 mg/m³ (Inhalable fraction)
 Protective equipment: Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal use.
 Ventilation: Ventilator is not required under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
 Form: Fine powder
 Colour: Yellow
 Odor: Odorless
 pH: N.A.
 Melting point: 100-120 °C
 Explosion properties: Dust explosion is improbable under normal use. Experimental explosiveness of toner is classified into the same rank such kind of powder as flour, dry milk and resin powder according to the pressure rising speed.
 Density: 1.2 - 1.4 g/cm³
 Solubility: Almost insoluble in water

10. STABILITY AND REACTIVITY

Stability / Reactivity: Stable under normal use.
 Hazardous decomposition products: None

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity:	(rat) LD ₅₀ >2,000 mg/kg*
Acute dermal toxicity:	(rat) LD ₅₀ >2,000 mg/kg (Estimated from acute oral toxicity for same products)
Acute inhalation toxicity:	(rat) LC ₅₀ (4hr)>5.0 mg/l*
Acute eye irritation:	(rabbit) Minimal irritant*
Acute skin irritation:	(rabbit) Non-irritant*
Skin sensitisation:	(mouse) Non-sensitiser*
Mutagenicity:	AMES Test is negative
Information of ingredients:	No mutagen, according to MAK, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Reproductive toxicity:	
Information of ingredients:	No reproductive toxicant, according to MAK, California Proposition 65, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Carcinogenicity:	
Information of ingredients:	No carcinogen or potential carcinogen, (except titanium dioxide) according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 and (EC) No 1272/2008 Annex VI Table 3.2..

*Estimated from other products containing same materials.

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Other information: None

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Do not attempt to incinerate the toner container or unit and the waste toner yourself. Dangerous sparks may cause burn. Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

UN No.:	None
UN shipping name:	None
UN classification:	None
UN packing group:	None
Special precautions:	None

15. REGULATORY INFORMATION

EU Information

Label information according to the Directives 67/548/EEC and 1999/45/EEC.

Symbol and indication:	Not required
R-Phrase:	Not required
S-Phrase:	Not required
Special markings:	Not required
Hazardous ingredients for labelling:	None

US Information

All components in this product comply with order under TSCA.

16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.

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ISO 11014-1 Safety data sheet for chemical products

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Abbreviation:

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UN:	United Nations

MATERIAL SAFETY DATA SHEET

Date: June 1, 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Black Toner for
P-C3061DN, P-C3060 MFP, P-C3065 MFP

Manufacturer
Name: KYOCERA Document Solutions Inc.
Address: 2-28, 1-Chrome, Tamatsukuri, Chuo-ku540-8585,
Japan

Supplier
Name: TA Triumph-Adler GmbH
Address: Ohechausee 235, 22848 Norderstedt, Germany
Telephone number: +49 (0) 40 / 528490

2. HAZARDS IDENTIFICATION

Most important hazards: Not classified as dangerous (1999/45/EC)

Specific hazards: None

Other information on hazards: Potential health effects

Ingestion: Ingestion is not applicable route of entry for intended use.

Inhalation: Prolonged inhalation of excessive dusts may cause lung damage. Use of this product, as intended, does not result in inhalation of excessive dusts.

Eye contact: May cause transient eye irritation.

Skin contact: Unlikely to cause skin irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation; Preparation ingredients

Chemical name (Common name)	CAS No.	%
Polyester resin	Confidential	70 – 80
Carbon black	1333-86-4	5 – 10
Styrene acrylate copolymer	Confidential	1 – 5
Amorphous silica	7631-86-9	1 – 5
Titanium dioxide	13463-67-7	<1

Information of ingredients:

PBT or vPvB substance under regulation (EC) No 1907/2006: None

Substance listed in candidate list of SVHC for authorisation under Regulation (EC) No 1907/2006:
None

4. FIRST-AID MEASURES

Inhalation: Remove from exposure to fresh air and gargle with plenty of water. Consult a doctor in case of such symptoms as coughing.

Skin contact: Wash with soap and water.

Eye contact: Flush with water immediately and see a doctor if irritating.

Ingestion: Rinse out the mouth. Drink one or two glasses of water to dilute. Seek medical treatment if necessary.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Water (Sprinkle with water), foam, powder, CO₂ or dry chemical extinguisher

Fire-fighting procedure: Pay attention not to blow away toner powder. Drain water off around and decrease the atmosphere temperature to extinguish the fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid inhalation, ingestion, eye and skin contact in case of accidental toner release.
Environmental precautions:	Do not release into drains and surface water.
Method for cleaning up:	Gather the released toner not to blow away and to wipe up with a wet cloth.

7. HANDLING AND STORAGE

Handling:	Never open the toner container.
Storage:	Keep toner container tightly closed and store in a cool, dry and dark place keeping away from fire. Keep away from children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH-TLV ₍₂₎ -TWA:	Inhalable fraction 10 mg/m ³ , Respirable fraction 3 mg/m ³ , Carbon black 3.5 mg/m ³ , Titanium dioxide 10 mg/m ³
OSHA-PEL ₍₃₎ -TWA:	Total dust 15 mg/m ³ , Respirable fraction 5 mg/m ³ , Carbon black 3.5 mg/m ³ , Titanium dioxide 15 mg/m ³ (Total dust), Amorphous silica 80 mg/m ³ /%SiO ₂
DFG-MAK:	Inhalable fraction 4 mg/m ³ , Amorphous silica 4 mg/m ³ (Inhalable fraction)
Protective equipment:	Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal use.
Ventilation:	Ventilator is not required under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid
Form:	Fine powder
Colour:	Black
Odor:	Odorless
pH:	N.A.
Melting point:	100-120 °C
Explosion properties:	Dust explosion is improbable under normal use. Experimental explosiveness of toner is classified into the same rank such kind of powder as flour, dry milk and resin powder according to the pressure rising speed.
Density:	1.2 - 1.4 g/cm ³
Solubility:	Almost insoluble in water

10. STABILITY AND REACTIVITY

Stability / Reactivity:	Stable under normal use.
Hazardous decomposition products:	None

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity:	(rat) LD ₅₀ >2,000 mg/kg*
Acute dermal toxicity:	(rat) LD ₅₀ >2,000 mg/kg (Estimated from acute oral toxicity for same products)
Acute inhalation toxicity:	(rat) LC ₅₀ (4hr)>5.0 mg/l*
Acute eye irritation:	(rabbit) Minimal irritant*
Acute skin irritation:	(rabbit) Non-irritant*
Skin sensitisation:	(mouse) Non-sensitiser*
Mutagenicity:	AMES Test is negative
Information of ingredients:	No mutagen, according to MAK, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Reproductive toxicity:	
Information of ingredients:	No reproductive toxicant, according to MAK, California Proposition 65, TRGS905 and (EC) No 1272/2008 Annex VI Table 3.2.
Carcinogenicity:	
Information of ingredients:	No carcinogen or potential carcinogen, (except titanium dioxide) according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 and (EC) No 1272/2008 Annex VI Table 3.2..

* Estimated from other products containing same materials.

The IARC re-evaluated carbon black and titanium dioxide as a group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure test in rats. But, oral/skin test does not show carcinogenicity. (4) The evaluation of carbon black is based upon the development of lung tumours in rat receiving chronic inhalation exposures to free carbon black at level that induce particle overload of the lung. The studies performed in animal models other than rats have not demonstrated an association between carbon black and lung tumours. Moreover, a two-years cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumour development in rats. (1) In the animal chronic inhalation studies for titanium dioxide, the lung tumour was observed in only rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon). (5) The inhalation of excessive titanium dioxide does not occur in normal use of this product. Also, epidemiological studies to date have not revealed any evidence of relation between occupational exposure to titanium dioxide and respiratory tract diseases.

Chronic effects:

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 (16 mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4 mg/m³) exposure group. (1) But no pulmonary change was reported in the lowest (1 mg/m³) exposure group, the most relevant potential human exposures.

Other information: None

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Do not attempt to incinerate the toner container or unit and the waste toner yourself. Dangerous sparks may cause burn. Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

UN No.:	None
UN shipping name:	None
UN classification:	None
UN packing group:	None
Special precautions:	None

15. REGULATORY INFORMATION

EU Information

Label information according to the Directives 67/548/EEC and 1999/45/EEC.

Symbol and indication:	Not required
R-Phrase:	Not required
S-Phrase:	Not required
Special markings:	Not required
Hazardous ingredients for labelling:	None

US Information

All components in this product comply with order under TSCA.

16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.

- (1) Pulmonary response to toner upon chronic inhalation exposure in rats H. Muhle et. al
Fundamental and Applied Toxicology 17.280-299 (1991)
Lung clearance and retention of toner, utilizing a tracer technique, during chronic inhalation exposure in rats B. Bellmann
Fundamental and Applied Toxicology 17.300-313 (1991)
- (2) ACGIH TLV (Threshold Limit Values)
- (3) OSHA PEL (Permissible Exposure Limits)
- (4) IARC Monograph on the evaluation of the carcinogenic risk of chemicals to humans, Vol. 93
- (5) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of health hazard and recommendation for occupational exposure to Titanium Dioxide DRAFT"

ISO 11014-1 Safety data sheet for chemical products

Regulation (EC) No 1907/2006

Abbreviation:

ACGIH:	American Conference of Governmental Industrial Hygienists
EC No. 1272/2008 Annex VI Table 3.2:	Regulation on classification, labelling and packaging of substances and mixture (CLP) Annex VI Table 3.2.
EPA:	Environmental Protections Agency (USA)
IARC :	International Agency for Research on Cancer
MAK:	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
Proposition 65:	California, Safe drinking water and toxic enforcement act of 1986
TRGS905:	Technische Regeln für Gefahrenstoffe (Deutsche)
TSCA:	Toxic Substances Control Act (USA)
TWA:	Time Weighted Average
UN:	United Nations