

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

SDS Number: TK580C-TA-UT-04-EN

Issue date: -

Revision date: 07.03.2016

Effective date: 07.03.2016

Version: 04

Replace version: 03

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

#### 1.1 Product identifier

**Product name** Cyan Toner for  
CLP 3721, CLP 4721 / P-C2160DN

**Consumable name**

**Product form** Mixture

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

**Identified uses** The image formation of our electrophotographic equipments.  
Other uses are not recommended.

#### 1.3 Details of the supplier of the safety data sheet

**Manufacturer** KYOCERA Document Solutions Inc.

**Address** 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan

**Supplier** TA Triumph-Adler GmbH

**Address** Ohechaussee 235  
22848 Norderstedt  
Germany

**1.4 Emergency telephone number** +49 (0) 40 / 528490

(This number is available only during office hours)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

Not classified as hazardous mixture.

#### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

Not applicable.

#### 2.3 Other hazards

Assessment of PBT/vPvB No data available.

See section 4 and 11 for information on health effects and symptoms.

See section 9 for dust explosion information.

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

This product is a mixture.

#### 3.2 Mixtures

<u>Chemical name</u>	<u>CAS-No</u>	<u>[Weight %]</u>
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

- (1) Substance which present a health or environmental hazard within the meaning of CLP:  
 None.
- (2) Substance which are assigned Community workplace exposure limits:  
 None.
- (3) Substance which are PBT or vPvB in accordance with the criteria set out in Annex XIII of REACH:  
 None.
- (4) Substance which are included in the list established in accordance with Article 59(1) of REACH (SVHC):  
 None.

See section 16 for the full text of the H statements declared above.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General information:** No data available.

**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.

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### 4.2 Most important symptoms and effects, both acute and delayed

Potential health effects and symptoms

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

**Skin Contact:** Unlikely to cause skin irritation.

**Eye Contact:** May cause transient eye irritation.

**Ingestion:** Use of this product as intended does not result in ingestion.

### 4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable Extinguishing media

Water spray, foam, powder, CO<sub>2</sub> or dry chemical

#### Unsuitable Extinguishing media

None specified.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon dioxide, Carbon monoxide

### 5.3 Advice for firefighters

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

#### Protection equipment for firefighters

None specified.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation, ingestion, eye and skin contact in case of accidental release.  
Avoid formation of dust. Provide adequate ventilation.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

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Gather the released powder not to blow away and wipe up with a wet cloth.

### 6.4 Reference to other sections

See section 13 for disposal information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not attempt to force open or destroy the toner container or unit. See installation guide of this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep the toner container or unit tightly closed and store in a cool, dry and dark place. Keeping away from fire. Keep out of the reach of children.

### 7.3 Specific end uses

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### US ACGIH Threshold Limit Values (TWA)

Particles: 10mg/m<sup>3</sup> (Inhalable particles) 3mg/m<sup>3</sup> (Respirable particles)  
Titanium dioxide: 10mg/m<sup>3</sup>

#### US OSHA PEL (TWA)

Particles: 15mg/m<sup>3</sup> (Total dust) 5mg/m<sup>3</sup> (Respirable fraction)  
Amorphous silica: 80mg/m<sup>3</sup>/%SiO<sub>2</sub> Titanium dioxide: 15mg/m<sup>3</sup> (Total dust)

#### EU Occupational exposure limits: Directive (EC) 2000/39, (EC) 2006/15 und (EU) 2009/161

Not listed.

### 8.2 Exposure controls

#### Appropriate engineering controls

Special ventilator is not required under normal intended use. Use in a well ventilated area.

#### Personal protective equipment

Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal intended use.

#### Environmental exposure controls

No additional information available.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

Physical state	Solid (fine powder)
Color	Cyan
Odor	Odorless
Odor threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
Initial boiling point [°C]	No data available.
Flash point [°C]	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper flammability or explosive limits	No data available.
Lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density [g/m <sup>3</sup> ]	1.2-1.4 (Toner)
Solubility in water	Almost insoluble in water.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature [°C]	No data available.
Decomposition temperature [°C]	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

#### 9.2 Other information

Dust explosion is improbable under normal intended 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.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No data available.

#### 10.2 Chemical stability

This product is stable under normal conditions of use and storage.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions will not occur.

#### 10.4 Conditions to avoid

None specified.

#### 10.5 Incompatible materials

None specified.

#### 10.6 Hazardous decomposition products

Hazardous decomposition products are not to be produced.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Based on available data, the classification criteria listed below are not met.

##### Acute toxicity

Oral (LD <sub>50</sub> )	>2000mg/kg (rat)*
Dermal (LD <sub>50</sub> )	No data available. (Toner)
Inhalation (LC <sub>50</sub> (4hr))	>4.98 mg/l (rat)* (This value is the maximum attainable concentration for dust)

##### Skin corrosion/irritation

**Acute skin irritation** Mild irritant. (rabbit)\*

##### Serious eye damage/irritation

**Acute eye irritation** Minimal irritant. (rabbit)\*

##### Respiratory or skin sensitization

**Skin sensitization** Non-sensitizer. (mouse)\*

\*(based on test result of similar product) (Toner)

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**11.1 Germ cell mutagenicity** Ames test is negative. (Toner)  
(based on test result of constituent materials)

Information of Ingredients:

No mutagen according to MAK, TRGS905 und (EC) No 1272/2008 Annex VI.

### **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 und (EC) No 1272/2008 Annex VI.

The IARC reevaluated Titanium dioxide as a Group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure tests in rats. But, oral/skin tests does not show carcinogenicity (2). In the animal chronic inhalation studies for Titanium dioxide, the lung tumor was observed only in rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon) (3). 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 the relation between occupational exposure to Titanium dioxide and respiratory tract diseases.

### **Reproductive toxicity**

Information of Ingredients:

No reproductive toxicant according to MAK, California Proposition 65, TRGS 905 und (EC) No 1272/2008 Annex VI.

**STOT-single exposure** No data available.

**STOT-repeated exposure** No data available.

**Aspiration hazard** No data available.

### **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 the rats in the high concentration (16 mg/m<sup>3</sup>) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4mg/m<sup>3</sup>) exposure group (1). But no pulmonary change was reported in the lowest (1mg/m<sup>3</sup>) exposure group, the most relevant level to potential human exposures.

**Other Information** No data available.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

#### 12.5 Results of PBT and vPvB assessment

No data available.

#### 12.6 Other adverse effects

No additional information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

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).

### SECTION 14: Transport information

#### 14.1 UN-number

None.

#### 14.2 UN Proper shipping name

None.

#### 14.3 Transport hazard class(es)

None.

#### 14.4 Packing group



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None.

### 14.5 Environmental hazards

None.

### 14.6 Special precautions for user

No additional information available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

## SECTION 15: Regulatory information

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

#### EU- regulations

Regulation (EC) No 1005 / 2009 (on substances that deplete the ozone layer, Annex I and II):  
Not listed.

Regulation (EC) No 850 / 2004 (on persistent organic pollutants, Annex I as amended):  
Not listed.

Regulation (EC) No 689 / 2008 (concerning the export and import of dangerous chemicals, Annex I and V as amended):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XVII as amended (Restrictions on use):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XIV as amended (Authorizations):  
Not listed.

#### US-regulations

All ingredients in this product comply with order under TSCA.

#### Canada regulations

This product is not a WHMIS-controlled product, since we consider it as a manufactured article.

### 15.2 Chemical Safety Assessment

No data available.

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### SECTION 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. The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, Annex II as amended by Regulation (EU) No 453/2010 with respect to SDSs.

Revision information: Format change

Full text of H statements under sections 3: Not applicable

#### Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists (2010)
TLVs and BEIs	Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DFG	Deutsche Forschungsgemeinschaft
EPA	Environmental Protection Agency (Integrated Risk Information System) (USA)
IARC	International Agency for Research on Cancer (IARC Monographs on the Evaluations of Carcinogenic Risks to Humans)
MAK	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft (2011)
NTP	National Toxicology Program (Report on Carcinogens) (USA)
OSHA	Occupational Safety and Health Administration (29 CFR Part 1910 Subpart Z)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limits
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
Proposition 65	California, Safe Drinking Water and Toxic Enforcement Act of 1986
TRGS 905	Technische Regeln für Gefahrstoffe (Deutschland)
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bioaccumulative
WHMIS	Workplace Hazardous Materials Information System (Canada)

#### Key literature references and sources for data

- (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) IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93
- (3) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"

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(4) The contents are in accordance with Material Safety Data Sheet "TK580C-TA-UT-04-EN"; 07/03/2016 of the KYOCERA Document Solutions Inc., 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan.

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

#### 1.1 Product identifier

**Product name** Magenta Toner for  
CLP 3721, CLP 4721 / P-C2160DN

**Consumable name**

**Product form** Mixture

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

**Identified uses** The image formation of our electrophotographic equipments.  
Other uses are not recommended.

#### 1.3 Details of the supplier of the safety data sheet

**Manufacturer** KYOCERA Document Solutions Inc.

**Address** 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan

**Supplier** TA Triumph-Adler GmbH

**Address** Ohechaussee 235  
22848 Norderstedt  
Germany

**1.4 Emergency telephone number** +49 (0) 40 / 528490

(This number is available only during office hours)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

Not classified as hazardous mixture.

#### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

Not applicable.

#### 2.3 Other hazards

Assessment of PBT/vPvB No data available.

See section 4 and 11 for information on health effects and symptoms.

See section 9 for dust explosion information.

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

This product is a mixture.

#### 3.2 Mixtures

<u>Chemical name</u>	<u>CAS-No</u>	<u>[Weight %]</u>
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

- (1) Substance which present a health or environmental hazard within the meaning of CLP:  
None.
- (2) Substance which are assigned Community workplace exposure limits:  
None.
- (3) Substance which are PBT or vPvB in accordance with the criteria set out in Annex XIII of REACH: None.
- (4) Substance which are included in the list established in accordance with Article 59(1) of REACH (SVHC): None.

See section 16 for the full text of the H statements declared above.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General information:** No data available.

**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.

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### 4.2 Most important symptoms and effects, both acute and delayed

Potential health effects and symptoms

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

**Skin Contact:** Unlikely to cause skin irritation.

**Eye Contact:** May cause transient eye irritation.

**Ingestion:** Use of this product as intended does not result in ingestion.

### 4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable Extinguishing media

Water spray, foam, powder, CO<sub>2</sub> or dry chemical

#### Unsuitable Extinguishing media

None specified.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon dioxide, Carbon monoxide

### 5.3 Advice for firefighters

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

#### Protection equipment for firefighters

None specified.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation, ingestion, eye and skin contact in case of accidental release.  
Avoid formation of dust. Provide adequate ventilation.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

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Gather the released powder not to blow away and wipe up with a wet cloth.

### 6.4 Reference to other sections

See section 13 for disposal information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not attempt to force open or destroy the toner container or unit. See installation guide of this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep the toner container or unit tightly closed and store in a cool, dry and dark place. Keeping away from fire. Keep out of the reach of children.

### 7.3 Specific end uses

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### US ACGIH Threshold Limit Values (TWA)

Particles: 10mg/m<sup>3</sup> (Inhalable particles) 3mg/m<sup>3</sup> (Respirable particles)  
Titanium dioxide: 10mg/m<sup>3</sup>

#### US OSHA PEL (TWA)

Particles: 15mg/m<sup>3</sup> (Total dust) 5mg/m<sup>3</sup> (Respirable fraction)  
Amorphous silica: 80mg/m<sup>3</sup>/%SiO<sub>2</sub> Titanium dioxide: 15mg/m<sup>3</sup> (Total dust)

#### EU Occupational exposure limits: Directive (EC) 2000/39, (EC) 2006/15 und (EU) 2009/161

Not listed.

### 8.2 Exposure controls

#### Appropriate engineering controls

Special ventilator is not required under normal intended use. Use in a well ventilated area.

#### Personal protective equipment

Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal intended use.

#### Environmental exposure controls

No additional information available.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

Physical state	Solid (fine powder)
Color	Magenta
Odor	Odorless
Odor threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
Initial boiling point [°C]	No data available.
Flash point [°C]	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper flammability or explosive limits	No data available.
Lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density [g/m <sup>3</sup> ]	1.2-1.4 (Toner)
Solubility in water	Almost insoluble in water.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature [°C]	No data available.
Decomposition temperature [°C]	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

#### 9.2 Other information

Dust explosion is improbable under normal intended 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.



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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No data available.

#### 10.2 Chemical stability

This product is stable under normal conditions of use and storage.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions will not occur.

#### 10.4 Conditions to avoid

None specified.

#### 10.5 Incompatible materials

None specified.

#### 10.6 Hazardous decomposition products

Hazardous decomposition products are not to be produced.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Based on available data, the classification criteria listed below are not met.

##### Acute toxicity

Oral (LD <sub>50</sub> )	>2000mg/kg (rat)*
Dermal (LD <sub>50</sub> )	No data available. (Toner)
Inhalation (LC <sub>50</sub> (4hr))	>5.02 mg/l (rat)*

##### Skin corrosion/irritation

**Acute skin irritation** Mild irritant. (rabbit)\*

##### Serious eye damage/irritation

**Acute eye irritation** Minimal irritant. (rabbit)\*

##### Respiratory or skin sensitization

**Skin sensitization** Non-sensitizer. (mouse)\*

\*(based on test result of similar product) (Toner)

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**11.1 Germ cell mutagenicity** Ames test is negative. (Toner)  
(based on test result of constituent materials)

Information of Ingredients:

No mutagen according to MAK, TRGS905 und (EC) No 1272/2008 Annex VI.

### 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 und (EC) No 1272/2008 Annex VI.

The IARC reevaluated Titanium dioxide as a Group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure tests in rats. But, oral/skin tests does not show carcinogenicity (2). In the animal chronic inhalation studies for Titanium dioxide, the lung tumor was observed only in rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon) (3). 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 the relation between occupational exposure to Titanium dioxide and respiratory tract diseases.

### Reproductive toxicity

Information of Ingredients:

No reproductive toxicant according to MAK, California Proposition 65, TRGS 905 und (EC) No 1272/2008 Annex VI.

**STOT-single exposure** No data available.

**STOT-repeated exposure** No data available.

**Aspiration hazard** No data available.

### 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 the rats in the high concentration (16 mg/m<sup>3</sup>) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4mg/m<sup>3</sup>) exposure group (1). But no pulmonary change was reported in the lowest (1mg/m<sup>3</sup>) exposure group, the most relevant level to potential human exposures.

**Other Information** No data available.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

#### 12.5 Results of PBT and vPvB assessment

No data available.

#### 12.6 Other adverse effects

No additional information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

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).

### SECTION 14: Transport information

#### 14.1 UN-number

None.

#### 14.2 UN Proper shipping name

None.

#### 14.3 Transport hazard class(es)

## Safety Data Sheet

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None.

### 14.4 Packing group

None.

### 14.5 Environmental hazards

None.

### 14.6 Special precautions for user

No additional information available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

## SECTION 15: Regulatory information

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

#### EU- regulations

Regulation (EC) No 1005 / 2009 (on substances that deplete the ozone layer, Annex I and II):  
Not listed.

Regulation (EC) No 850 / 2004 (on persistent organic pollutants, Annex I as amended):  
Not listed.

Regulation (EC) No 689 / 2008 (concerning the export and import of dangerous chemicals, Annex I and V as amended):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XVII as amended (Restrictions on use):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XIV as amended (Authorizations):  
Not listed.

#### US-regulations

All ingredients in this product comply with order under TSCA.

#### Canada regulations

This product is not a WHMIS-controlled product, since we consider it as a manufactured article.

### 15.2 Chemical Safety Assessment

No data available.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

**SDS Number:** TK580M-TA-UT-04-EN

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**Effective date:** 07.03.2016

**Version:** 04

**Replace version:** 03

### SECTION 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. The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, Annex II as amended by Regulation (EU) No 453/2010 with respect to SDSs.

Revision information: Format change

Full text of H statements under sections 3: Not applicable

#### Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists (2010)
TLVs and BEIs	Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DFG	Deutsche Forschungsgemeinschaft
EPA	Environmental Protection Agency (Integrated Risk Information System) (USA)
IARC	International Agency for Research on Cancer (IARC Monographs on the Evaluations of Carcinogenic Risks to Humans)
MAK	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft (2011)
NTP	National Toxicology Program (Report on Carcinogens) (USA)
OSHA	Occupational Safety and Health Administration (29 CFR Part 1910 Subpart Z)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limits
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
Proposition 65	California, Safe Drinking Water and Toxic Enforcement Act of 1986
TRGS 905	Technische Regeln für Gefahrstoffe (Deutschland)
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bioaccumulative
WHMIS	Workplace Hazardous Materials Information System (Canada)

#### Key literature references and sources for data

- (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) IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93

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- (3) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"
- (4) The contents are in accordance with Material Safety Data Sheet "TK580M-TA-UT-04-EN"; 07/03/2016 of the KYOCERA Document Solutions Inc., 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

SDS Number: TK580Y-TA-UT-04-EN

Issue date: -

Revision date: 07.03.2016

Effective date: 07.03.2016

Version: 04

Replace version: 03

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

#### 1.1 Product identifier

**Product name** Yellow Toner for  
CLP 3721, CLP 4721 / P-C2160DN

**Consumable name**

**Product form** Mixture

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

**Identified uses** The image formation of our electrophotographic equipments.  
Other uses are not recommended.

#### 1.3 Details of the supplier of the safety data sheet

**Manufacturer** KYOCERA Document Solutions Inc.

**Address** 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan

**Supplier** TA Triumph-Adler GmbH

**Address** Ohechaussee 235  
22848 Norderstedt  
Germany

**1.4 Emergency telephone number** +49 (0) 40 / 528490

(This number is available only during office hours)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

Not classified as hazardous mixture.

#### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

Not applicable.

#### 2.3 Other hazards

Assessment of PBT/vPvB No data available.

See section 4 and 11 for information on health effects and symptoms.

See section 9 for dust explosion information.

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

This product is a mixture.

#### 3.2 Mixtures

<u>Chemical name</u>	<u>CAS-No</u>	<u>[Weight %]</u>
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

- (1) Substance which present a health or environmental hazard within the meaning of CLP:  
None.
- (2) Substance which are assigned Community workplace exposure limits:  
None.
- (3) Substance which are PBT or vPvB in accordance with the criteria set out in Annex XIII of REACH:  
None.
- (4) Substance which are included in the list established in accordance with Article 59(1) of REACH (SVHC):  
None.

See section 16 for the full text of the H statements declared above.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General information:** No data available.

**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.



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### 4.2 Most important symptoms and effects, both acute and delayed

Potential health effects and symptoms

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

**Skin Contact:** Unlikely to cause skin irritation.

**Eye Contact:** May cause transient eye irritation.

**Ingestion:** Use of this product as intended does not result in ingestion.

### 4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable Extinguishing media

Water spray, foam, powder, CO<sub>2</sub> or dry chemical

#### Unsuitable Extinguishing media

None specified.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon dioxide, Carbon monoxide

### 5.3 Advice for firefighters

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

#### Protection equipment for firefighters

None specified.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation, ingestion, eye and skin contact in case of accidental release. Avoid formation of dust. Provide adequate ventilation.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

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Gather the released powder not to blow away and wipe up with a wet cloth.

### 6.4 Reference to other sections

See section 13 for disposal information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not attempt to force open or destroy the toner container or unit. See installation guide of this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep the toner container or unit tightly closed and store in a cool, dry and dark place. Keeping away from fire. Keep out of the reach of children.

### 7.3 Specific end uses

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### US ACGIH Threshold Limit Values (TWA)

Particles: 10mg/m<sup>3</sup> (Inhalable particles) 3mg/m<sup>3</sup> (Respirable particles)  
Titanium dioxide: 10mg/m<sup>3</sup>

#### US OSHA PEL (TWA)

Particles: 15mg/m<sup>3</sup> (Total dust) 5mg/m<sup>3</sup> (Respirable fraction)  
Amorphous silica: 80mg/m<sup>3</sup>/%SiO<sub>2</sub> Titanium dioxide: 15mg/m<sup>3</sup> (Total dust)

#### EU Occupational exposure limits: Directive (EC) 2000/39, (EC) 2006/15 und (EU) 2009/161

Not listed.

### 8.2 Exposure controls

#### Appropriate engineering controls

Special ventilator is not required under normal intended use. Use in a well ventilated area.

#### Personal protective equipment

Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal intended use.

#### Environmental exposure controls

No additional information available.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

Physical state	Solid (fine powder)
Color	Yellow
Odor	Odorless
Odor threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
Initial boiling point [°C]	No data available.
Flash point [°C]	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper flammability or explosive limits	No data available.
Lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density [g/m <sup>3</sup> ]	1.2-1.4 (Toner)
Solubility in water	Almost insoluble in water.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature [°C]	No data available.
Decomposition temperature [°C]	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

#### 9.2 Other information

Dust explosion is improbable under normal intended 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.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No data available.

#### 10.2 Chemical stability

This product is stable under normal conditions of use and storage.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions will not occur.

#### 10.4 Conditions to avoid

None specified.

#### 10.5 Incompatible materials

None specified.

#### 10.6 Hazardous decomposition products

Hazardous decomposition products are not to be produced.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Based on available data, the classification criteria listed below are not met.

##### Acute toxicity

Oral (LD <sub>50</sub> )	>2000mg/kg (rat)*
Dermal (LD <sub>50</sub> )	No data available. (Toner)
Inhalation (LC <sub>50</sub> (4hr))	>5.02 mg/l (rat)*

##### Skin corrosion/irritation

**Acute skin irritation** Mild irritant. (rabbit)\*

##### Serious eye damage/irritation

**Acute eye irritation** Minimal irritant. (rabbit)\*

##### Respiratory or skin sensitization

**Skin sensitization** Non-sensitizer. (mouse)\*

\*(based on test result of similar product) (Toner)

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### 11.1 Germ cell mutagenicity Ames test is negative. (Toner)

Information of Ingredients:

No mutagen according to MAK, TRGS905 und (EC) No 1272/2008 Annex VI.

#### 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 und (EC) No 1272/2008 Annex VI.

The IARC reevaluated Titanium dioxide as a Group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure tests in rats. But, oral/skin tests does not show carcinogenicity (2). In the animal chronic inhalation studies for Titanium dioxide, the lung tumor was observed only in rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon) (3). 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 the relation between occupational exposure to Titanium dioxide and respiratory tract diseases.

#### Reproductive toxicity

Information of Ingredients:

No reproductive toxicant according to MAK, California Proposition 65, TRGS 905 und (EC) No 1272/2008 Annex VI.

**STOT-single exposure** No data available.

**STOT-repeated exposure** No data available.

**Aspiration hazard** No data available.

#### 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 the rats in the high concentration (16 mg/m<sup>3</sup>) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4mg/m<sup>3</sup>) exposure group (1). But no pulmonary change was reported in the lowest (1mg/m<sup>3</sup>) exposure group, the most relevant level to potential human exposures.

**Other Information** No data available.

## Safety Data Sheet

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### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

#### 12.5 Results of PBT and vPvB assessment

No data available.

#### 12.6 Other adverse effects

No additional information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

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).

### SECTION 14: Transport information

#### 14.1 UN-number

None.

#### 14.2 UN Proper shipping name

None.

#### 14.3 Transport hazard class(es)

None.

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### 14.4 Packing group

None.

### 14.5 Environmental hazards

None.

### 14.6 Special precautions for user

No additional information available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

## SECTION 15: Regulatory information

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

#### EU- regulations

Regulation (EC) No 1005 / 2009 (on substances that deplete the ozone layer, Annex I and II):  
Not listed.

Regulation (EC) No 850 / 2004 (on persistent organic pollutants, Annex I as amended):  
Not listed.

Regulation (EC) No 689 / 2008 (concerning the export and import of dangerous chemicals, Annex I and V as amended):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XVII as amended (Restrictions on use):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XIV as amended (Authorizations):  
Not listed.

#### US-regulations

All ingredients in this product comply with order under TSCA.

#### Canada regulations

This product is not a WHMIS-controlled product, since we consider it as a manufactured article.

### 15.2 Chemical Safety Assessment

No data available.

## Safety Data Sheet

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### SECTION 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. The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, Annex II as amended by Regulation (EU) No 453/2010 with respect to SDSs.

Revision information: Format change

Full text of H statements under sections 3: Not applicable

#### Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists (2010)
TLVs and BEIs	Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DFG	Deutsche Forschungsgemeinschaft
EPA	Environmental Protection Agency (Integrated Risk Information System) (USA)
IARC	International Agency for Research on Cancer (IARC Monographs on the Evaluations of Carcinogenic Risks to Humans)
MAK	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft (2011)
NTP	National Toxicology Program (Report on Carcinogens) (USA)
OSHA	Occupational Safety and Health Administration (29 CFR Part 1910 Subpart Z)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limits
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
Proposition 65	California, Safe Drinking Water and Toxic Enforcement Act of 1986
TRGS 905	Technische Regeln für Gefahrstoffe (Deutschland)
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bioaccumulative
WHMIS	Workplace Hazardous Materials Information System (Canada)

#### Key literature references and sources for data

- (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) IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93
- (3) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"



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according to Regulation (EC) No 1907/2006 (REACH)

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**Revision date:** 07.03.2016

**Effective date:** 07.03.2016

**Version:** 04

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(4) The contents are in accordance with Material Safety Data Sheet "TK580Y-TA-UT-04-EN"; 07/03/2016 of the KYOCERA Document Solutions Inc., 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

SDS Number: TK580K-TA-UT-04-EN

Issue date: -

Revision date: 07.03.2016

Effective date: 07.03.2016

Version: 04

Replace version: 03

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

#### 1.1 Product identifier

**Product name** Black Toner for  
CLP 3721, CLP 4721 / P-C2160DN

**Consumable name**

**Product form** Mixture

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

**Identified uses** The image formation of our electrophotographic equipments.  
Other uses are not recommended.

#### 1.3 Details of the supplier of the safety data sheet

**Manufacturer** KYOCERA Document Solutions Inc.

**Address** 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan

**Supplier** TA Triumph-Adler GmbH

**Address** Ohechaussee 235  
22848 Norderstedt  
Germany

**1.4 Emergency telephone number** +49 (0) 40 / 528490

(This number is available only during office hours)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

Not classified as hazardous mixture.

#### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

Not applicable.

#### 2.3 Other hazards

Assessment of PBT/vPvB No data available.

See section 4 and 11 for information on health effects and symptoms.

See section 9 for dust explosion information.

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Effective date: 07.03.2016

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

This product is a mixture.

#### 3.2 Mixtures

<u>Chemical name</u>	<u>CAS-No</u>	<u>[Weight %]</u>
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

(1) Substance which present a health or environmental hazard within the meaning of CLP:

None.

(2) Substance which are assigned Community workplace exposure limits:

None.

(3) Substance which are PBT or vPvB in accordance with the criteria set out in Annex XIII of REACH: None.

(4) Substance which are included in the list established in accordance with Article 59(1) of REACH (SVHC): None.

See section 16 for the full text of the H statements declared above.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General information:** No data available.

**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.

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SDS Number: TK580K-TA-UT-04-EN

Issue date: -

Revision date: 07.03.2016

Effective date: 07.03.2016

Version: 04

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### 4.2 Most important symptoms and effects, both acute and delayed

Potential health effects and symptoms

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

**Skin Contact:** Unlikely to cause skin irritation.

**Eye Contact:** May cause transient eye irritation.

**Ingestion:** Use of this product as intended does not result in ingestion.

### 4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable Extinguishing media

Water spray, foam, powder, CO<sub>2</sub> or dry chemical

#### Unsuitable Extinguishing media

None specified.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon dioxide, Carbon monoxide

### 5.3 Advice for firefighters

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

#### Protection equipment for firefighters

None specified.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation, ingestion, eye and skin contact in case of accidental release.  
Avoid formation of dust. Provide adequate ventilation.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

SDS Number: TK580K-TA-UT-04-EN

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Revision date: 07.03.2016

Effective date: 07.03.2016

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### 6.3 Methods and material for containment and cleaning up

Gather the released powder not to blow away and wipe up with a wet cloth.

### 6.4 Reference to other sections

See section 13 for disposal information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not attempt to force open or destroy the toner container or unit. See installation guide of this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep the toner container or unit tightly closed and store in a cool, dry and dark place. Keeping away from fire. Keep out of the reach of children.

### 7.3 Specific end uses

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### US ACGIH Threshold Limit Values (TWA)

Particles: 10mg/m<sup>3</sup> (Inhalable particles) 3mg/m<sup>3</sup> (Respirable particles)  
Carbon Black: 3.5 mg/m<sup>3</sup> Titanium dioxide: 10mg/m<sup>3</sup>

#### US OSHA PEL (TWA)

Particles: 15mg/m<sup>3</sup> (Total dust) 5mg/m<sup>3</sup> (Respirable fraction)  
Carbon Black: 3.5 mg/m<sup>3</sup> Amorphous silica: 80mg/m<sup>3</sup>/%SiO<sub>2</sub>  
Titanium dioxide: 15mg/m<sup>3</sup> (Total dust)

#### EU Occupational exposure limits: Directive (EC) 2000/39, (EC) 2006/15 und (EU) 2009/161

Not listed.

### 8.2 Exposure controls

#### Appropriate engineering controls

Special ventilator is not required under normal intended use. Use in a well ventilated area.

#### Personal protective equipment

Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal intended use.

#### Environmental exposure controls

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No additional information available.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

Physical state	Solid (fine powder)
Color	Black
Odor	Odorless
Odor threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
Initial boiling point [°C]	No data available.
Flash point [°C]	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper flammability or explosive limits	No data available.
Lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density [g/m <sup>3</sup> ]	1.2-1.4 (Toner)
Solubility in water	Almost insoluble in water.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature [°C]	No data available.
Decomposition temperature [°C]	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

#### 9.2 Other information

Dust explosion is improbable under normal intended 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.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No data available.

#### 10.2 Chemical stability

This product is stable under normal conditions of use and storage.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions will not occur.

#### 10.4 Conditions to avoid

None specified.

#### 10.5 Incompatible materials

None specified.

#### 10.6 Hazardous decomposition products

Hazardous decomposition products are not to be produced.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Based on available data, the classification criteria listed below are not met.

##### Acute toxicity

Oral (LD <sub>50</sub> )	>2000mg/kg (rat)*
Dermal (LD <sub>50</sub> )	No data available. (Toner)
Inhalation (LC <sub>50</sub> (4hr))	>5.0 mg/l (rat)*

##### Skin corrosion/irritation

**Acute skin irritation** Non-irritant. (rabbit)\*

##### Serious eye damage/irritation

**Acute eye irritation** Minimal irritant. (rabbit)\*

##### Respiratory or skin sensitization

**Skin sensitization** Non-sensitizer. (mouse)\*

\*(based on test result of similar product) (Toner)

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**11.1 Germ cell mutagenicity** Ames test is negative. (Toner) (Based on test result of constituents materials)

Information of Ingredients:

No mutagen according to MAK, TRGS905 und (EC) No 1272/2008 Annex VI.

### Carcinogenicity

Information of Ingredients:

No carcinogen or potential carcinogen (except Titanium dioxide and Carbon Black) according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 und (EC) No 1272/2008 Annex VI.

The IARC reevaluated Titanium dioxide and Carbon Black as a Group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure tests in rats. But, oral/skin tests does not show carcinogenicity (2). The evaluation of Carbon Black is based upon the development of lung tumors 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 tumors. Moreover, a two years cancer bioassay using a typical toner preparation containing Carbon Black demonstrated no association between toner exposure and tumor development in rats. In the animal chronic inhalation studies for Titanium dioxide, the lung tumor was observed only in rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon) (3). 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 the relation between occupational exposure to Titanium dioxide and respiratory tract diseases.

### Reproductive toxicity

Information of Ingredients:

No reproductive toxicant according to MAK, California Proposition 65, TRGS 905 und (EC) No 1272/2008 Annex VI.

**STOT-single exposure** No data available.

**STOT-repeated exposure** No data available.

**Aspiration hazard** No data available.

### 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 the rats in the high concentration (16 mg/m<sup>3</sup>) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the



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middle (4mg/m<sup>3</sup>) exposure group (1). But no pulmonary change was reported in the lowest (1mg/m<sup>3</sup>) exposure group, the most relevant level to potential human exposures.

**Other Information** No data available.

### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

#### 12.5 Results of PBT and vPvB assessment

No data available.

#### 12.6 Other adverse effects

No additional information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

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).

### SECTION 14: Transport information

#### 14.1 UN-number

None.

#### 14.2 UN Proper shipping name

None.

#### 14.3 Transport hazard class(es)

None.

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### 14.4 Packing group

None.

### 14.5 Environmental hazards

None.

### 14.6 Special precautions for user

No additional information available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

## SECTION 15: Regulatory information

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

#### EU- regulations

Regulation (EC) No 1005 / 2009 (on substances that deplete the ozone layer, Annex I and II):  
Not listed.

Regulation (EC) No 850 / 2004 (on persistent organic pollutants, Annex I as amended):  
Not listed.

Regulation (EC) No 689 / 2008 (concerning the export and import of dangerous chemicals, Annex I and V as amended):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XVII as amended (Restrictions on use):  
Not listed.

Regulation (EC) No 1907 / 2006 REACH Annex XIV as amended (Authorizations):  
Not listed.

#### US-regulations

All ingredients in this product comply with order under TSCA.

#### Canada regulations

This product is not a WHMIS-controlled product, since we consider it as a manufactured article.

### 15.2 Chemical Safety Assessment

No data available.

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### SECTION 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. The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, Annex II as amended by Regulation (EU) No 453/2010 with respect to SDSs.

Revision information: Format change

Full text of H statements under sections 3: Not applicable

#### Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists (2010)
TLVs and BEIs	Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DFG	Deutsche Forschungsgemeinschaft
EPA	Environmental Protection Agency (Integrated Risk Information System) (USA)
IARC	International Agency for Research on Cancer (IARC Monographs on the Evaluations of Carcinogenic Risks to Humans)
MAK	Maximale Arbeitsplatzkonzentration der Deutschen Forschungsgesellschaft (2011)
NTP	National Toxicology Program (Report on Carcinogens) (USA)
OSHA	Occupational Safety and Health Administration (29 CFR Part 1910 Subpart Z)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limits
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
Proposition 65	California, Safe Drinking Water and Toxic Enforcement Act of 1986
TRGS 905	Technische Regeln für Gefahrstoffe (Deutschland)
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bioaccumulative
WHMIS	Workplace Hazardous Materials Information System (Canada)

#### Key literature references and sources for data

- (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) IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93
- (3) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"

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