

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514C-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

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

- 1.1 Product identifier
- |                 |                                  |
|-----------------|----------------------------------|
| Product name    | Cyan Toner for<br>5006ci, 6006ci |
| Consumable name | CK-8514C                         |
| Product form    | Mixture                          |
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- |                 |   |
|-----------------|---|
| Identified uses | The image formation of our electro photographic equipment.<br>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<br>22848 Norderstedt<br>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.

## Safety Data Sheet

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

SDS Number: CK8514C-TA-UT-02-EN

Issue date: 23/06/2016

Revision date: 07/03/2017

Effective date: 07/03/2017

Version: 02

Replace version: 01

### 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 (3 kinds)	confidential	70-80
Ferrite (Ferrite including manganese)	66402-86-9	5-10 (as Mn: <2)
Organic pigment	confidential	3-8
Amorphous silica	7631-86-9	1-5
Titanium dioxide	13463-67-7	1-5

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

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.

## Safety Data Sheet

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

**SDS Number:** CK8514C-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### 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)

<b>SDS Number:</b> CK8514C-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

### 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 use(s)

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

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

Particles: 10 mg/m<sup>3</sup> (Inhalable particles) 3 mg/m<sup>3</sup> (Respirable particles)  
 Manganese inorganic compounds (Ferrite component): 0.1 mg/m<sup>3</sup> (Inhalable fraction)  
 0.02 mg/m<sup>3</sup> (Respirable Fraction) (as Mn)

Titanium dioxide: 10 mg/m<sup>3</sup>

#### US OSHA PEL (TWA)

Particles: 15 mg/m<sup>3</sup> (Total dust) 5 mg/m<sup>3</sup> (Respirable fraction)  
 Manganese compounds (Ferrite component): 5 mg/m<sup>3</sup> (Ceiling) (as Mn)  
 Amorphous silica: 80 mg/m<sup>3</sup>/ %SiO<sub>2</sub> Titanium dioxide: 15 mg/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.

### 8.2 Personal protective equipment

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514C-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

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

Environmental exposure controls

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)
Colour	Cyan
Odour	Odourless
Odour threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
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 limit	No data available.
Lower flammability or explosive limit	No data available.
Vapour pressure	No data available.
Vapour 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.

### SECTION 10: Stability and reactivity

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514C-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

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> )	>2000 mg/kg (rat)* (Toner). >2000 mg/kg (rat)** (Carrier).
	Dermal (LD <sub>50</sub> )	No data available (Toner). No data available (Carrier).
	Inhalation (LC <sub>50</sub> (4hr))	> 5.10 mg/l (rat)* (Toner).
	Skin corrosion/irritation	
	Acute skin irritation	Non-irritant (rabbit)* (Toner). Non-irritant (rabbit)** (Carrier).
	Serious eye damage/irritation	
	Acute eye irritation	Mild irritant (rabbit)* (Toner).
	Respiratory or skin sensitization	
	Skin sensitization	Non-sensitizer (mouse)* (Toner). Non-sensitizer** (Carrier).
11.1	Germ cell mutagenicity	Ames test is negative** (Toner).

## Safety Data Sheet

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

SDS Number: CK8514C-TA-UT-02-EN

Issue date: 23/06/2016

Revision date: 07/03/2017

Effective date: 07/03/2017

Version: 02

Replace version: 01

Ames test is negative.\*\* (Carrier).

\*(based on test result of similar product)

\*\* (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 re-evaluated 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 tumour 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

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

**SDS Number:** CK8514C-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### SECTION 12: Ecological information

12.1 Toxicity

No data available.

12.2 Persistence and degradability

No data available.

12.3 Bio accumulative 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

None.

14.5 Environmental hazards

None.



## Safety Data Sheet

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

**SDS Number:** CK8514C-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### 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)

<b>SDS Number:</b> CK8514C-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

### 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.

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, Bio accumulative 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)
STOT	Specific target organ toxicity
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bio accumulative
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"
- (4) The contents are in accordance with Material Safety Data Sheet "CK8514C-TA-UT-02-EN"; 07/03/2017 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: CK8514K-TA-UT-02-EN	Issue date: 23/06/2016
Revision date: 07/03/2017	Effective date: 07/03/2017
Version: 02	Replace version: 01

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

- 1.1 Product identifier
- |                 |                                   |
|-----------------|-----------------------------------|
| Product name    | Black Toner for<br>5006ci, 6006ci |
| Consumable name | CK-8514K                          |
| Product form    | Mixture                           |
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- |                 |   |
|-----------------|---|
| Identified uses | The image formation of our electro photographic equipment.<br>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<br>22848 Norderstedt<br>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.

## Safety Data Sheet

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

SDS Number: CK8514K-TA-UT-02-EN

Issue date: 23/06/2016

Revision date: 07/03/2017

Effective date: 07/03/2017

Version: 02

Replace version: 01

### 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 (3 kinds)	confidential	70-80
Ferrite (Ferrite including manganese)	66402-86-9	5-10 (as Mn: <2)
Carbon Black	1333-86-4	3-8
Amorphous silica	7631-86-9	1-5
Titanium dioxide	13463-67-7	1-5

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

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.

## Safety Data Sheet

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

**SDS Number:** CK8514K-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### 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

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

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514K-TA-UT-02-EN	Issue date:	23/06/2016
<b>Revision date:</b> 07/03/2017	Effective date:	07/03/2017
<b>Version:</b> 02	Replace version:	01

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 use(s)  
 No additional information available.

### SECTION 8: Exposure controls/personal protection

8.1 Control parameters

US ACGIH Threshold Limit Values (TWA)

Particles: 10 mg/m<sup>3</sup> (Inhalable particles) 3 mg/m<sup>3</sup> (Respirable particles)  
 Manganese inorganic compounds (Ferrite component): 0.1 mg/m<sup>3</sup> (Inhalable fraction)  
 0.02 mg/m<sup>3</sup> (Respirable fraction) (as Mn)

Carbon Black: 3.0 mg/m<sup>3</sup> (Inhalable fraction) Titanium dioxide: 10 mg/m<sup>3</sup>

US OSHA PEL (TWA)

Particles: 15 mg/m<sup>3</sup> (Total dust) 5 mg/m<sup>3</sup> (Respirable fraction)  
 Manganese compounds (Ferrite component): 5 mg/m<sup>3</sup> (Ceiling) (as Mn)  
 Carbon Black: 3.5 mg/m<sup>3</sup> Amorphous silica: 80 mg/m<sup>3</sup>/ %SiO<sub>2</sub>  
 Titanium dioxide: 15 mg/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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514K-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

8.2 Environmental exposure controls  
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)
Colour	Black
Odour	Odourless
Odour threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
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 limit	No data available.
Lower flammability or explosive limit	No data available.
Vapour pressure	No data available.
Vapour 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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514K-TA-UT-02-EN	Issue date:	23/06/2016
<b>Revision date:</b> 07/03/2017	Effective date:	07/03/2017
<b>Version:</b> 02	Replace version:	01

### 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> )	>2000 mg/kg (rat)* (Toner). >2000 mg/kg (rat)** (Carrier).
--------------------------	---

Dermal (LD <sub>50</sub> )	No data available (Toner). No data available (Carrier).
----------------------------	--

Inhalation (LC <sub>50</sub> (4hr))	> 5.09 mg/l (rat)* (Toner).
-------------------------------------	-----------------------------

##### Skin corrosion/irritation

Acute skin irritation	Non-irritant (rabbit)* (Toner). Non-irritant (rabbit)** (Carrier).
-----------------------	---

##### Serious eye damage/irritation

Acute eye irritation	Mild irritant (rabbit)* (Toner).
----------------------	----------------------------------

##### Respiratory or skin sensitization

Skin sensitization	Non-sensitizer (mouse)* (Toner). Non-sensitizer** (Carrier).
--------------------	---



## Safety Data Sheet

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

<b>SDS Number:</b> CK8514K-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

11.1 Germ cell mutagenicity      Ames test is negative\*\* (Toner).  
    Ames test is negative\*\* (Carrier).  
    \* (based on test result of similar product)  
    \*\* (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 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 re-evaluated Titanium dioxide and Carbon Black 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 (2). 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 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

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

**SDS Number:** CK8514K-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### SECTION 12: Ecological information

12.1 Toxicity

No data available.

12.2 Persistence and degradability

No data available.

12.3 Bio accumulative 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

None.

14.5 Environmental hazards

None.

## Safety Data Sheet

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

**SDS Number:** CK8514K-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### 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)

<b>SDS Number:</b> CK8514K-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

### 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.

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, Bio accumulative 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)
STOT	Specific target organ toxicity
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bio accumulative
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"
- (4) The contents are in accordance with Material Safety Data Sheet "CK8514K-TA-UT-02-EN"; 07/03/2017 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)

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

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

- 1.1 Product identifier
- |                 |                                     |
|-----------------|-------------------------------------|
| Product name    | Magenta Toner for<br>5006ci, 6006ci |
| Consumable name | CK-8514M                            |
| Product form    | Mixture                             |
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- |                 |   |
|-----------------|---|
| Identified uses | The image formation of our electro photographic equipment.<br>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<br>22848 Norderstedt<br>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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

### 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 (3 kinds)	confidential	70-80
Ferrite (Ferrite including manganese)	66402-86-9	5-10 (as Mn: <2)
Organic pigment	confidential	3-8
Amorphous silica	7631-86-9	1-5
Titanium dioxide	13463-67-7	1-5

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

**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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

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

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

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 use(s)  
 No additional information available.

### SECTION 8: Exposure controls/personal protection

8.1 Control parameters  
 US ACGIH Threshold Limit Values (TWA)  
 Particles: 10 mg/m<sup>3</sup> (Inhalable particles) 3 mg/m<sup>3</sup> (Respirable particles)  
 Manganese inorganic compounds (Ferrite component): 0.1 mg/m<sup>3</sup> (Inhalable fraction)  
 0.02 mg/m<sup>3</sup> (Respirable Fraction) (as Mn)  
 Titanium dioxide: 10 mg/m<sup>3</sup>

US OSHA PEL (TWA)  
 Particles: 15 mg/m<sup>3</sup> (Total dust) 5 mg/m<sup>3</sup> (Respirable fraction)  
 Manganese compounds (Ferrite component): 5 mg/m<sup>3</sup> (Ceiling) (as Mn)  
 Amorphous silica: 80 mg/m<sup>3</sup>/ %SiO<sub>2</sub> Titanium dioxide: 15 mg/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.



## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

### 8.2 Environmental exposure controls

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)
Colour	Magenta
Odour	Odourless
Odour threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
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 limit	No data available.
Lower flammability or explosive limit	No data available.
Vapour pressure	No data available.
Vapour 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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	Issue date:	23/06/2016
<b>Revision date:</b> 07/03/2017	Effective date:	07/03/2017
<b>Version:</b> 02	Replace version:	01

### 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> )	>2000 mg/kg (rat)* (Toner). >2000 mg/kg (rat)** (Carrier).
--------------------------	---

Dermal (LD <sub>50</sub> )	No data available (Toner). No data available (Carrier).
----------------------------	--

Inhalation (LC <sub>50</sub> (4hr))	> 5.08 mg/l (rat)* (Toner).
-------------------------------------	-----------------------------

##### Skin corrosion/irritation

Acute skin irritation	Non-irritant (rabbit)* (Toner). Non-irritant (rabbit)** (Carrier).
-----------------------	---

##### Serious eye damage/irritation

Acute eye irritation	Mild irritant (rabbit)* (Toner).
----------------------	----------------------------------

##### Respiratory or skin sensitization

Skin sensitization	Non-sensitizer (mouse)* (Toner). Non-sensitizer** (Carrier).
--------------------	---

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

11.1 Germ cell mutagenicity      Ames test is negative\*\* (Toner).  
    Ames test is negative\*\* (Carrier).  
    \* (based on test result of similar product)  
    \*\* (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 re-evaluated 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 tumour 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

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

**SDS Number:** CK8514M-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bio accumulative 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

None.

#### 14.5 Environmental hazards

None.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

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)

<b>SDS Number:</b> CK8514M-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

### 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.

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, Bio accumulative 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)
STOT	Specific target organ toxicity
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bio accumulative
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"
- (4) The contents are in accordance with Material Safety Data Sheet "CK8514M-TA-UT-02-EN"; 07/03/2017 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)

<b>SDS Number:</b> CK8514Y-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

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

- 1.1 Product identifier
- |                 |                                    |
|-----------------|------------------------------------|
| Product name    | Yellow Toner for<br>5006ci, 6006ci |
| Consumable name | CK-8514Y                           |
| Product form    | Mixture                            |
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- |                 |   |
|-----------------|---|
| Identified uses | The image formation of our electro photographic equipment.<br>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<br>22848 Norderstedt<br>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.

## Safety Data Sheet

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

SDS Number: CK8514Y-TA-UT-02-EN

Issue date: 23/06/2016

Revision date: 07/03/2017

Effective date: 07/03/2017

Version: 02

Replace version: 01

### 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 (3 kinds)	confidential	70-80
Ferrite (Ferrite including manganese)	66402-86-9	5-10 (as Mn: <2)
Organic pigment	confidential	3-8
Amorphous silica	7631-86-9	1-5
Titanium dioxide	13463-67-7	1-5

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

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.



## Safety Data Sheet

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

**SDS Number:** CK8514Y-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### 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

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

## Safety Data Sheet

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

SDS Number: CK8514Y-TA-UT-02-EN

Issue date: 23/06/2016

Revision date: 07/03/2017

Effective date: 07/03/2017

Version: 02

Replace version: 01

### 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 use(s)

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

US ACGIH Threshold Limit Values (TWA)

Particles: 10 mg/m<sup>3</sup> (Inhalable particles) 3 mg/m<sup>3</sup> (Respirable particles)  
Manganese inorganic compounds (Ferrite component): 0.1 mg/m<sup>3</sup> (Inhalable fraction)  
0.02 mg/m<sup>3</sup> (Respirable Fraction) (as Mn)

Titanium dioxide: 10 mg/m<sup>3</sup>

US OSHA PEL (TWA)

Particles: 15 mg/m<sup>3</sup> (Total dust) 5 mg/m<sup>3</sup> (Respirable fraction)  
Manganese compounds (Ferrite component): 5 mg/m<sup>3</sup> (Ceiling) (as Mn)  
Amorphous silica: 80 mg/m<sup>3</sup>/ %SiO<sub>2</sub> Titanium dioxide: 15 mg/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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514Y-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

### 8.2 Environmental exposure controls

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)
Colour	Yellow
Odour	Odourless
Odour threshold	No data available.
pH	No data available.
Melting range [°C]	100-120 (Toner)
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 limit	No data available.
Lower flammability or explosive limit	No data available.
Vapour pressure	No data available.
Vapour 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.

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514Y-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

### 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> )	>2000 mg/kg (rat)* (Toner). >2000 mg/kg (rat)** (Carrier).
--------------------------	---

Dermal (LD <sub>50</sub> )	No data available (Toner). No data available (Carrier).
----------------------------	--

Inhalation (LC <sub>50</sub> (4hr))	> 5.10 mg/l (rat)* (Toner).
-------------------------------------	-----------------------------

##### Skin corrosion/irritation

Acute skin irritation	Non-irritant (rabbit)* (Toner). Non-irritant (rabbit)** (Carrier).
-----------------------	---

##### Serious eye damage/irritation

Acute eye irritation	Mild irritant (rabbit)* (Toner).
----------------------	----------------------------------

##### Respiratory or skin sensitization

Skin sensitization	Non-sensitizer (mouse)* (Toner). Non-sensitizer** Carrier).
--------------------	--

## Safety Data Sheet

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

<b>SDS Number:</b> CK8514Y-TA-UT-02-EN	<b>Issue date:</b>	23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b>	07/03/2017
<b>Version:</b> 02	<b>Replace version:</b>	01

11.1 Germ cell mutagenicity      Ames test is negative\*\* (Toner).  
    Ames test is negative\*\* (Carrier).  
    \* (based on test result of similar product)  
    \*\* (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 re-evaluated 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 tumour 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

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

**SDS Number:** CK8514Y-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bio accumulative 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

None.

#### 14.5 Environmental hazards

None.

## Safety Data Sheet

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

**SDS Number:** CK8514Y-TA-UT-02-EN

**Issue date:** 23/06/2016

**Revision date:** 07/03/2017

**Effective date:** 07/03/2017

**Version:** 02

**Replace version:** 01

### 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)

<b>SDS Number:</b> CK8514Y-TA-UT-02-EN	<b>Issue date:</b> 23/06/2016
<b>Revision date:</b> 07/03/2017	<b>Effective date:</b> 07/03/2017
<b>Version:</b> 02	<b>Replace version:</b> 01

### 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.

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, Bio accumulative 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)
STOT	Specific target organ toxicity
SVHC	Substances of Very High Concern
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average
UN	United Nations
vPvB	very Persistent and very Bio accumulative
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"
- (4) The contents are in accordance with Material Safety Data Sheet "CK8514Y-TA-UT-02-EN"; 07/03/2017 of the KYOCERA Document Solutions Inc., 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan.