



## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

Product Name : Black Toner for FS-C5100DN (TK-540K)  
Relevant identified uses: Toner for electrophotographic equipments  
Manufacturer  
Name : KYOCERA Document Solutions Inc.  
Address : 2-28, 1-Chome, Tamatsukuri, Chuo-ku Osaka 540-8585, Japan  
Supplier  
Name : KYOCERA Document Solutions Europe B.V.  
Address : Bloemlaan 4, 2132 NP Hoofddorp, The Netherlands  
Telephone Number : +31(0)20-6540000

### 2. HAZARDS IDENTIFICATION

Most Important Hazards : Not classified as dangerous. (Directive 1999/45/EC)  
Specific Hazards : None  
Other Information on Hazards: Potential Health Effects  
Ingestion : Use of this product as intended does not result in ingestion of toner.  
Inhalation : Prolonged inhalation of excessive dusts may cause lung damage.  
Use of this product as intended does not result in prolonged inhalation of excessive toner dusts.  
Eye Contact : May cause transient eye irritation.  
Skin Contact : Unlikely to cause skin irritation.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Substance or Mixture ; Mixture

Ingredients ;

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

Information of Ingredients:

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

Substance listed in Candidate List of SVHC for Authorisation under Regulation (EC) No 1907/2006: None

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#### 4. FIRST-AID MEASURES

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

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#### 5. FIRE-FIGHTING MEASURES

- Extinguishing Media : Water (Sprinkle with Water), Foam, Powder, CO<sub>2</sub> or Dry Chemical Extinguisher
- Fire-Fighting Procedure : Pay attention not to blow away toner powder. Drain water off around and decrease the atmosphere temperature to extinguish the fire.

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#### 6. ACCIDENTAL RELEASE MEASURES

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

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#### 7. HANDLING AND STORAGE

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

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#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters<Reference Data>:

- ACGIH TLV<sub>(2)</sub>-TWA : Inhalable fraction 10mg/m<sup>3</sup>, Respirable fraction 3mg/m<sup>3</sup>  
Carbon black 3.5mg/m<sup>3</sup> Titanium dioxide 10mg/m<sup>3</sup>
- OSHA PEL<sub>(3)</sub>-TWA : Total dust 15mg/m<sup>3</sup>, Respirable fraction 5mg/m<sup>3</sup>

	Carbon black	3.5mg/m <sup>3</sup>	Amorphous silica	80mg/m <sup>3</sup> /%SiO <sub>2</sub>
	Titanium dioxide	15mg/m <sup>3</sup>	(Total dust)	
DFG-MAK	: Inhalable fraction	4 mg/m <sup>3</sup>		
	Amorphous silica	4mg/m <sup>3</sup>	(Inhalable fraction)	
Protective Equipment	: Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal use.			
Ventilation	: Ventilator is not required under normal use.			

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Physical state:	Solid	Form:	Fine powder	Color:	Black	Odor:	Odorless
pH	: Not applicable						
Melting Point	: 100-120 °C						
Explosion Properties	: Dust explosion is improbable under normal use.						
	Experimental explosiveness of toner is classified into the same rank such kind of powder as flour, dry milk and resin powder according to the pressure rising speed.						
Density	: 1.2-1.4 g/cm <sup>3</sup>						
Solubility	: Almost insoluble in water						

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## 10. STABILITY AND REACTIVITY

Stability/ Reactivity	: Stable under normal use.
Hazardous Decomposition Products:	None

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## 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: (rat)LD <sub>50</sub> >2,000mg/kg (Estimated from other products containing same materials.)
Acute dermal toxicity	: (rat)LD <sub>50</sub> >2,000mg/kg (Estimated from Acute oral toxicity for same product.)
Acute inhalation toxicity	: (rat)LC <sub>50</sub> (4hr) >5.0mg/l (Estimated from other products containing same materials.)
Acute eye irritation	: (rabbit) Minimal irritant (Estimated from other products containing same materials.)
Acute skin irritation	: (rabbit)Non-irritant (Estimated from other products containing same materials.)
Skin sensitisation	: (mouse)Non-sensitiser

(Estimated from other products containing same materials.)

Mutagenicity : Ames Test is Negative.

(Estimated from the data of constituent materials.)

Information of Ingredients: No mutagen, according to MAK, TRGS905 and (EC)No 1272/2008 AnnexVI Table3.2.

Reproductive Toxicity:

Information of Ingredients: No reproductive toxicant, according to MAK, California Proposition 65, TRGS905 and (EC)No 1272/2008 AnnexVI Table3.2.

Carcinogenicity :

Information of Ingredients: No carcinogen or potential carcinogen, (except carbon black and titanium dioxide) according to IARC, Japan Association on Industrial Health, ACGIH, EPA,OSHA,NTP, MAK, California Proposition 65, TRGS 905 and (EC)No 1272/2008 AnnexVI Table3.2.

The IARC reevaluated carbon black and titanium dioxide as a Group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure test in rats. But, oral/skin test does not show carcinogenicity. <sup>(4)</sup> 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. <sup>(1)</sup>

In the animal chronic inhalation studies for titanium dioxide, the lung tumor was observed in only rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon). <sup>(5)</sup> The inhalation of excessive titanium dioxide dose 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.

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(16mg/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. <sup>(1)</sup> 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 : None

## 12. ECOLOGICAL INFORMATION

No data available.

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## 13. DISPOSAL CONSIDERATIONS

Do not attempt to incinerate the toner container or unit and the waste toner yourself.

Dangerous sparks may cause burn.

Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

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## 14. TRANSPORT INFORMATION

UN No. : None  
UN Shipping Name : None  
UN Classification : None  
UN Packing Group : None  
Special Precautions : None

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## 15. REGULATORY INFORMATION

### EU Information

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

Symbol and Indication : Not required  
R-Phrase : Not required  
S-Phrase : Not required  
Special markings : Not required  
Hazardous ingredients for labeling: None

### US Information

All ingredients in this product comply with order under TSCA.

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## 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.

### <Reference>

- (1) • Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats H.Muhle et.al  
Fundamental and Applied Toxicology 17.280-299(1991)
  - Lung Clearance and Retention of Toner, Utilizing a Tracer Technique, during Chronic Inhalation Exposure in Rats B.Bellmann

Fundamental and Applied Toxicology 17.300-313(1991)

- (2) ACGIH TLV (Threshold Limit Values)
  - (3) OSHA PEL (Permissible Exposure Limits)
  - (4) IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.93
  - (5) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"
- ISO 11014-1 Safety data sheet for chemical products
  - Regulation (EC) No 1907/2006

<Abbreviation>

ACGIH : American Conference of Governmental Industrial Hygienists  
2010 TLVs and BEIs (Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices)

OSHA : Occupational Safety and Health Administration (29 CFR Part1910 Subpart Z)

TWA : Time Weighted Average

IARC : International Agency for Research on Cancer

(IARC Monographs on the Evaluations of Carcinogenic Risks to Humans)

EPA: Environmental Protection Agency (Integrated Risk Information System) (USA)

NTP: National Toxicology Program (Report on Carcinogens) (USA)

MAK: Maximale Arbeitsplatz-Konzentrationen (List of MAK and BAT Values 2011)

(DFG: Deutsche Forschungsgemeinschaft)

Proposition 65: California, Safe Drinking Water and Toxic Enforcement Act of 1986

TRGS905: Technische Regeln für Gefahrstoffe (Deutsche)

(EC)No.1272/2008 AnnexVI Table3.2: Regulation(EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) AnnexVI Table3.2

UN: United Nations

TSCA: Toxic Substances Control Act (USA)