SDS Number: TK5390K-KDE-03-EN
Issue date: 26/12/2022
Revision date: 29/10/2024

SAFETY DATA SHEET

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

1.1. Product identifier

Product name : Black Toner for ECOSYS PA4500cx

Consumable name : TK-5390K

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 : KYOCERA Document Solutions Europe Management B.V.

Address : Beechavenue 27, 1119 RA Schiphol-Rijk, The Netherlands

Telephone number : +31(0)20-654-0000

E-mail : msds@deu.kyocera.com

1.4. Emergency telephone number

: For safety questions, please contact each sale site 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	Identifier CAS No.	Weight%	Classification(CLP)
Polyester resin (3 kinds)	Confidential	80-90	None
Carbon black	1333-86-4	3-8	None
Wax	Confidential	3-8	None
Amorphous silica	7631-86-9	1-2	None
Aluminium compound	1344-28-1	< 1	None

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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.

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_2 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

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

Protective equipment for firefighters : None specified.

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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

Method for 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

(Reference data)

US ACGIH Threshold Limit Values (TWA)

Particles: 10 mg/m³ (Inhalable particles), 3 mg/m³ (Respirable particles)
Carbon black: 3 mg/m³ (Inhalable fraction)
Aluminium insoluble compounds : 1 mg/m³ (Respirable fraction)

US OSHA PEL (TWA)

Particles: 15 mg/m³ (Total dust), 5 mg/m³ (Respirable fraction)
Carbon black: 3.5 mg/m³
Amorphous silica: 80 mg/m³/%SiO_2

EU Occupational exposure limits : Directive 2000/39/EC, 2006/15/EC and 2009/161/EU

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	: Black.	
Odor	: Odorless.	
Melting point/freezing point	: 100-120 ℃	(Toner)
Boiling point or initial boiling point and boiling range	: No data available.	
Flammability	: No data available.	
Lower and upper explosion limit	: No data available.	
Flash point	: No data available.	
Auto-ignition temperature	: No data available.	
Decomposition temperature	: No data available.	
pH	: No data available.	
Kinematic viscosity	: No data available.	
Solubility(ies)	: Almost insoluble in water.	
Partition coefficient n-octanol/water (log value)	: No data available.	
Vapour pressure	: No data available.	
Density and/or relative density	: 1.2-1.4 g/㎤	(Toner)
Relative vapour density	: Not applicable.	
Particle characteristics	: 1-10 µm (Toner)	

9.2. Other information

Dust explosion properties : 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

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.

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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Acute toxicity

Oral (LD_{50}) : > 2000 mg/kg (rat)
(Based on test result of similar product.) (Toner)

Dermal (LD_{50}) : > 2000 mg/kg (rat)
(Based on test result of similar product.) (Toner)

Inhalation (LC_{50} (4hr)) : > 5.09 mg/l (rat)
(Based on test result of similar product.) (Toner)

Skin corrosion/irritation

Acute skin irritation : Non-irritant (rabbit)
(Based on test result of similar product.) (Toner)

Serious eye damage/irritation

Acute eye irritation : Minimal irritant (rabbit)
(Based on test result of similar product.) (Toner)

Respiratory or skin sensitisation

Skin sensitisation : Non-sensitiser (mouse)
(Based on test result of similar product.) (Toner)

Germ cell mutagenicity

: Ames Test is Negative.
(Toner)

Information of Ingredients : No mutagen, according to MAK, TRGS905 and (EC) No 1272/2008 Annex VI.

Carcinogenicity

Information of Ingredients : No carcinogen or potential carcinogen according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 and (EC) No 1272/2008 Annex VI.

(except carbon black)
The IARC reevaluated 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 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. (*1)

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Reproductive toxicity

Information of Ingredients : No reproductive toxicant according to MAK, California Proposition 65, TRGS905 and (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/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4 mg/m³) exposure group. (*1)
But no pulmonary change was reported in the lowest (1 mg/m³) exposure group, the most relevant level to potential human exposures.

11.2. Information on other hazards

Endocrine disrupting properties : No data available.

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. Endocrine disrupting properties : No data available.

12.7. 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 or ID 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.

14.6. Special precautions for user : No additional information available.

14.7. Maritime transport in bulk according to IMO instruments

: Not applicable.

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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 Annex II

: Not listed.

Regulation (EU) 2019/1021 on persistent organic pollutants, Annex I as amended

: Not listed.

Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals, Annex I and Annex 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 (Authorisations)

: 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.

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) 2020/878 with respect to SDSs.

Revision information : SECTION 1.

Version : 03

Full text of H statements under sections 3.

: Not applicable.

Abbreviations and acronyms

PBT	:	Persistent, Bioaccumulative and Toxic
vPvB	:	Very Persistent and Very Bioaccumulative
SVHC	:	Substances of Very High Concern
CAS	:	Chemical Abstracts Service
ACGIH	:	American Conference of Governmental Industrial Hygienists 2016 TLVs and BEIs (Threshold Limit Values for Chemical Substances and Physica Agents and Biological Exposure Indices)
OSHA	:	Occupational Safety and Health Administration (29 CFR Part 1910 Subpart Z)
TWA	:	Time Weighted Average
PEL	:	Permissible Exposure Limits
UN	:	United Nations
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) (US)
NTP	:	National Toxicology Program (Report on Carcinogens) (US)
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

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TRGS905	:	Technische Regeln für Gefahrstoffe (Deutschland)
STOT	:	Specific target organ toxicity
TSCA	:	Toxic Substances Control Act (US)
WHMIS	:	Workplace Hazardous Materials Information System (Canada)
REACH	:	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP	:	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

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"