

SECTION 1

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MSDS #: TN1847-0207

MATERIAL SAFETY DATA SHEET Product Code: 2792B / F42-5407

IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE

3 Black Toner 407 electrophotographic apparatus neet:
407 electrophotographic apparatus neet:
electrophotographic apparatus neet:
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aruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan
TIFICATION
vder, slight plastic odor.
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MSDS #:

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SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Mixture: Mixture

Ingredient(s):

Chemical Name/	CAS #/	Concentration/ Concentration Range (%)			EU Classification	Note to		
Generic Name	EC#		67/548/EF Symbol/ Indication of Danger	R-Phrase*1	(EC) No 12 Hazard Class/ Category Code	Hazard Statement* ¹	Other Hazards* ²	
Polyester resin	Confidential	80-90	None	None	None	None		
Carbon black	1333-86-4/ 215-609-9	1-5	None	None	None None None		(1)	
Pigment	Confidential	1-5	None	None	None	None		
Amorphous silica	7631-86-9/ 231-545-4	1-3	None	None None None		None	(1)	
Titanium dioxide	13463-67-7/ 236-675-5	< 1	None	None	None	None	(1)	

^{*1} Full texts of R-phrase(s) and Hazard statement(s) are listed in SECTION 16

Carcinogen(s)

Chemical Name	CAS#	Reference
Carbon black (1-5%)	1333-86-4	IARC: Group 2B.
Titanium dioxide (< 1%)	13463-67-7	NTP; OSHA; Part 3 of Annex VI to Regulation (EC)
		No 1272/2008: Not listed.

^{*2} The following substance(s) is (are) marked with (1), (2) and/or (3)

⁽¹⁾ Substance for which Occupational Exposure Limit(s) is (are) established (See SECTION 8)

⁽²⁾ PBT substance or vPvB substance under Regulation (EC) No 1907/2006

⁽³⁾ Substance listed in Candidate List of SVHC for Authorisation under Regulation (EC) No 1907/2006



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SECTION 4 FIRST AID MEASURES

First Aid Measures:

Inhalation:

If symptoms are experienced, move victim to fresh air and obtain medical advice.

Ingestion:

Rinse mouth. Drink 1 or 2 glasses of water. If irritation or discomfort occurs, obtain medical advice immediately. **Skin:**

Wash with soap and water. If irritation persists, obtain medical advice.

Eve:

Do not allow victim to rub eye(s). Flush with lukewarm, gently flowing water for 5 minutes or until particle is removed. If irritation persists, obtain medical attention.

Most Important Symptoms and Effects, both Acute and Delayed:

Inhalation:

Exposure to excessive amounts of dust may cause physical irritation to respiratory tract.

Ingestion:

Low acute toxicity. Ingestion is a minor route of entry for intended use of this product.

Skin:

May be non-irritant.

Eve:

May cause transient slight irritation.

Chronic Effects:

Prolonged inhalation of excessive amounts of dust may cause lung damage. Use of this product as intended does not result in inhalation of excessive amounts of dust.

Indication of Any Immediate Medical Attention and Special Treatment Needed:

None

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media:

Suitable Extinguishing Media:

CO2, water, dry chemicals

Unsuitable Extinguishing Media:

None

Special Hazards:

Can form explosive dust-air mixtures when finely dispersed in air.

Hazardous Combustion Products:

CO2, CO

Advice for Fire-fighters:

Wear gloves, glasses, a mask if necessary.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Avoid breathing dust. Wash thoroughly after handling.

Environmental Precautions:

Do not wash away into sewer.

Methods and Material for Containment and Cleaning Up:

Sweep slowly spilled powder on to paper, and carefully transfer into a waste container. Clean remainder with wet paper, wet cloth or a vacuum cleaner.

If a vacuum cleaner is used, it must rate as a dust explosion-proof type. Fine powder can form explosive dust-air mixtures.



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Precautions for Safe Handling:

Avoid breathing dust. Wash thoroughly after handling.

Use with adequate ventilation.

Conditions for Safe Storage, Including Any Incompatibilities:

Keep out of the reach of children.

Keep away from oxidizing materials.

Specific End Uses:

Toner for electrophotographic apparatus.

For more information, please refer to the instruction of this product.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION Control Parameters: ACGIH TLV **USA EU OEL** DFG MAK OSHA PEL Product (Toner) PNOR: PNOS: Not established Dust: TWA 15 mg/m³ TWA 10 mg/m³ 4 mg/m^3 (Total dust), (Inhalable fraction), (Inhalable fraction), TWA 5 mg/m³ TWA 3 mg/m³ 1.5 mg/m^3 (Respirable fraction) (Respirable fraction) (Respirable fraction) TWA 3.5 mg/m³ TWA 3.5 mg/m³ Carbon black Not established Not established Not established Not established Not established Amorphous silica 20 mppcf, 80 (mg/m³)/%SiO₂ Titanium dioxide TWA 15 mg/m³ TWA 10 mg/m³ Not established Not established (Total dust)

Exposure Controls:

Engineering Controls:

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No	snecial	ventilation	equinment	10	needed	under	: intended	1150	Λt	thic	nroduct

Individual Protection Measures: Eye/Face Protection: ☐ Required ☐ Not Required ☐ Required ☐ Not Required



Incompatible Materials:

Hazardous Decomposition Products: CO, CO2

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PHYSICAL AND CHEMICAL PROPERTIES **SECTION 9 Information on Basic Physical and Chemical Properties:** Appearance: Black fine powder Odor: Slight plastic odor pH: Not applicable **Melting Point/Freezing Point (°C):** 85-120 (Softening point) **Initial Boiling Point and** Not applicable **Boiling Range** (°C): Flash Point(°C): Not applicable Not applicable **Evaporation Rate:** Estimate: Not-flammable (Test method: Directive 92/69/EEC, A10 Flammability: Flammability (Solids)) (See SECTION 16) Upper/Lower Flammable or Not applicable **Explosive Limits:** Vapor Pressure: Not applicable **Vapor Density:** Not applicable **Relative Density:** 1.0-1.5 Negligible Water Solubility: Partially soluble in toluene and xylene. **Fat Solubility:** Partition Coefficient (n-Octanol/Water): Not applicable **Auto-ignition Temperature (°C):** Not available **Decomposition Temperature (°C):** > 200 Viscosity (mPa s): Not applicable Can form explosive dust-air mixtures when finely dispersed in air. **Explosive Properties: Oxidizing Properties:** Not available **Other Information:** Not available **SECTION 10** STABILITY AND REACTIVITY Reactivity: None **⊠** Stable **Chemical Stability:** Possibility of Hazardous Reactions: None **Conditions to Avoid:** None

Date of Issue: August 3, 2009 Revision Date: January 14, 2011

Strong oxidizers

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SECTION 11 TOXICOLOGICAL INFORMATION

Information on Toxicological Effects:

Acute Toxicity:

Inhalation:

Not available

Ingestion:

Estimate: Rat, LD50 > 2000 mg/kg (See SECTION 16)

Corrosivity/Irritation:

Skin:

Estimate: Rabbit, non-irritant (See SECTION 16)

Eye:

Estimate: Rabbit, transient slight conjunctival irritation only. (See SECTION 16)

Sensitization:

Skin:

Estimate: Non-sensitizing (See SECTION 16)

Repeated Dose Toxicity:

Muhle et al. reported pulmonary response upon chronic inhalation exposure in rats to a toner enriched in respirable-sized particles compared to commercial toner. No pulmonary change was found at 1 mg/m^3 which is most relevant to potential human exposure. A minimal to mild degree of fibrosis was noted in 22% of the animals at 4 mg/m^3 , and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m^3 .

These findings are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged interval.

Carcinogenicity:

The IARC evaluated carbon black and titanium dioxide as Group 2B carcinogens, for which there are inadequate human evidences, but sufficient animal evidences. The latter are based upon the evidences such as development of lung tumors in rats receiving chronic inhalation exposure to powdered carbon black and titanium dioxide at levels that induce particle overload of the lung.

However, there are inhalation studies of a toner containing carbon black and a toner containing titanium dioxide which demonstrated or suggested no association between toner exposure and tumor development in rats.

Mutagenicity:

Ames Test (S. typhimurium, E. coli): Negative

Toxicity for Reproduction:

Not available

Other Information:

Not available



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ECOLOGICAL INFORMATION SECTION 12

Toxicity: Estimate: Fish, 96h LC50 > 100 mg/l

Estimate: Crustaceans, 48h EC50 > 100 mg/l

Estimate: Algae, ErC50(0-72h) > 100 mg/l (See SECTION 16)

Persistence and Degradability: Not available

Bioaccumulative Potential: Not available

Mobility in Soil: Not available

Results of PBT and vPvB No results that the component(s) of this toner meet(s) the PBT or vPvB criteria

Assessment: under Regulation (EC) No 1907/2006.

Other Adverse Effects: Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

DO NOT put toner or toner container into fire; heated toner may cause severe burns. DO NOT shred a toner container, unless dust-explosion preventing measures are taken. Finely dispersed particles form explosive mixtures in air. Disposal should be subject to federal, state and local laws.

SECTION 14 TRANSPORT INFORMATION

UN Number: None

UN Proper Shipping Name: None

Transport Hazard Class: None

Packing Group: None

Not classified as environmentally hazardous under UN Model Regulations and **Environmental Hazards:**

marine pollutant under IMDG Code.

Special Precautions for User: None

SECTION 15 REGULATORY INFORMATION

< USA Information >

SARA Title III §313:

Chemical Name Weight %

None

California Proposition 65:

Weight % **Chemical Name**

None

< EU Information >

Safety, Health and Environmental Regulations/Legislation:

Not regulated (EC) No 1907/2006: Authorisation:

> Not regulated **Restriction:**

(EC) No 1005/2009: Not regulated

(EC) No 850/2004: Not regulated

(EC) No 689/2008: Not regulated

Others: None

Chemical Safety Assessment under (EC) No 1907/2006: Not required



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SECTION 15 REGULATORY INFORMATION (continued)

< Canada Information >

WHMIS Controlled Product: Not applicable (Manufactured article)

< Australia Information >

Statement of Hazardous Nature: Not classified as hazardous according to criteria of NOHSC.

SECTION 16 OTHER INFORMATION

<Revised information from the previous version>

Entirely revised

<Term explanation>

Estimate: Estimate based on data of similar product or the ingredient(s) of this product.

Literature References:

- U.S. Department of Labor, 29CFR Part 1910
- U.S. Environmental Protection Agency, 40CFR Part 372
- U.S. Consumer Product Safety Commission, 16CFR Part 1500
- ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- U.S. Department of Health and Human Services National Toxicology Program, Annual Report on Carcinogens
- World Health Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- DFG, List of MAK and BAT Values
- EU Directive 1999/45/EC
- EU Regulation (EC) No 1907/2006, (EC) No 1272/2008, (EC) No 1005/2009, (EC) No 850/2004, (EC) No 689/2008
- Canada Workplace Hazardous Materials Information System
- Australia National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances[NOHSC:1008]

Abbreviations:

OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA)

FHSA: Federal Hazardous Substances Act (USA) PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative SVHC: Substances of Very High Concern

IARC: International Agency for Research on Cancer

NTP: National Toxicology Program (USA)

OSHA PEL: PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration (USA) ACGIH TLV: TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists

 $EU\ OEL:\ Occupational\ exposure\ limits\ at\ Community\ level\ under\ Directive\ 2004/37/EC,\ 98/24/EC,\ 91/322/EEC,\ 2000/39/EC,\ 2006/15/EC\ and\ 2004/37/EC,\ 98/24/EC,\ 91/322/EEC,\ 2000/39/EC,\ 2006/15/EC\ and\ 2004/37/EC,\ 2006/15/EC\ and\ 2004/37/EC\ a$

2009/161/EU

DFG MAK: MAK(Maximale Arbeitsplatz-Konzentration) under Deutsche Forschungsgemeinschaft

TWA: Time Weighted Average STEL: Short Term Exposure Limit

PNOR: Particulates Not Otherwise Regulated

PNOS: Particles (insoluble or poorly soluble) Not Otherwise Specified WHMIS: Workplace Hazardous Materials Information System NOHSC: National Occupational Health and Safety Commission

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