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## 5.FIRE-FIGHTING MEASURES

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Suitable Extinguishing Media	: Water spray, Foam, Dry chemicals. When in a machine, treat as an electrical fire.
Unsuitable Extinguishing Media	: No Information.

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## 6.ACCIDENTAL RELEASE MEASURES

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Personal precautions, protective equipment and emergency procedures	: Avoid inhalation. If you spill a large volume of toner, contact your local representative for special handling.
Environmental precautions	: Prevent from entering into soil, waterways and ground water.
Methods and materials for containment and cleaning up	: Get rid of fire sources. Use a broom or a wet cloth to wipe off spilled toner. (It may catch fire by electric sparks inside the vacuum cleaner and cause explosion.)

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## 7.HANDLING AND STORAGE

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### Handling

Technical measures	: None required when used as intended in our equipment.
Local and total ventilation	: None required when used as intended in our equipment.
Notice	: Do not incinerate toner or a toner cartridge. Do not disassemble a cartridge.
Safe handling advice	: Do not incinerate toner or a toner cartridge. Do not disassemble a cartridge.

### Storage

Technical measures	: None
Conditions for safe storage	: Keep in cool, dry and well-ventilated area. Keep out of reach of children.
Packaging compatibilities	: Keep in our designated packaging materials.

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## 8.EXPOSURE CONTROLS /PERSONAL PROTECTION

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### Control Parameters

ACGIH TLV	: Refer the latest ACGIH TLV values.
Precautionary Measured	: None required when used as intended in our equipment. For use other than normal customer operating procedures(such as in bulk toner processing facilities), local exhaust ventilation may be required.
Personal Protective Equipment	: None required when used as intended in our equipment. For use other than normal customer operating procedures(such as in bulk toner processing facilities), protective glove, goggles and respirators may be required.

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## 9.PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	: Powder
Color	: Gray
Odor	: Faint Odor

pH	: Not available
Melting Point/freezing point	: Not available
Boiling Point/Initial boiling point and boiling range	: Not available
Flash point	: Not applicable
Auto-ignition temperature	: None
Upper/lower flammability or explosive limits	: Not available
Vapour Pressure	: Not available
Vapour density	: Not available
Relative density	: Not available
Solubility	: Insoluble
Partition coefficient:n-octanol/water	: Not applicable
Decompositon temperature	: Not available

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## 10.STABILITY AND REACTIVITY

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Stability and Reactivity	: Stable
Possibility of hazardous reactions	: None
Conditions to avoid	: None
Incompatible materials	: None
Hazardous decomposition products	: No Information

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## 11.TOXICOLOGICAL INFORMATION

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The toxicity data noted below is based on test results of this materials or similar materials.

### Acute Toxicity

Swallowed→LD50(rat)	: >2000 mg/kg (practically non-toxic)
Skin→LD50	: Not available
Skin Irritant(rabbit)	: Not an irritant
Skin Corrosive	: Not a corrosive
Serious eye damage/eye irritation - Description(rabbit)	: Not an irritant (based on toxicity data of the ingredients of print)
Skin or Respiratory sensitization - Description(guinea-pig)	: Not a skin sensitizer
Mutageny	: Ames Assay: Negative
Carcinogenicity - Description	: Titanium dioxide is classified as Group 2B by IARC.In animal chronic inhalation study, rats only showed the incidence of lung tumors which is attributed to excessive burden on rat lung clearance mechanism (overloading).It is assumed that a designated use of this product should not cause such excessive burden on lung clearance mechanism. The relationship between respiratory diseases and work exposure of titanium dioxide has not been observed in previous epidemiological studies. All other ingredients than titanium dioxide are not classified as “Carcinogens <sup>ref.1)</sup> ”.
Reproduction and Development	: Not classified as “ Reproductive and Development chemicals <sup>ref.2)</sup> ”

Specific Target Organ Toxicity Single Exposure	:	Not available
Specific Target Organ Toxicity Repeated	:	In a two-year toner inhalation exposure test in rats, mild fibrosis was observed in the lungs in the group exposed to medium doses (4 mg/m <sup>3</sup> ) or high doses (16 mg/m <sup>3</sup> ) exposure environments daily, but no significant changes were observed in the lungs in the low-dose (1 mg/m <sup>3</sup> ) group. The amount of toner discharged during normal use of our products is significantly less than 1mg/m <sup>3</sup> per day, and as long as the product is used on a daily basis, it is judged that it will not affect the human body <sup>ref.3</sup> .
Aspiration Hazard	:	Not applicable
Other Information	:	None

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## 12.ECOLOGICAL INFORMATION

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The toxicity data noted below is based on test results of this materials or similar materials.

### Ecotoxicity

Acute Toxicity	Fish 96hr LC50 (Oryzias latipes)	:	>500 mg/L (practically non-toxic)(based on toxicity data of the ingredients of print)
	Daphnia 48hr EC50 (Daphnia magna)	:	>100 mg/L (practically non-toxic)(based on toxicity data of the ingredients of print)
	Algae 72hr EC50 (Selenastrum capricornutum)	:	>100 mg/L (practically non-toxic)(based on toxicity data of the ingredients of print)
Persistence and degradability		:	Not available
Bioaccumulative potential		:	Not available
Mobility in soil		:	Not available
Other adverse effects		:	Not available

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## 13.DISPOSAL CONSIDERATIONS

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Dispose off in accordance with national and local regulations.

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## 14.TRANSPORT INFORMATION

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Transport in accordance with national, and local regulations.

UN Hazard Class	:	None
UN Number	:	None
Air Transport		
ICAO-TI/IATA-DGR	:	None
Sea Transport		
IMDG Code	:	None

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## 15.REGULATORY INFORMATION

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Ensure this product in compliance with national requirements and ensure conformity to local regulations.

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## 16.OTHER INFORMATION

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The above mentioned data correspond to our present state of knowledge and experience, but no warranty is made. Users should consider these data only as a supplement to other information and must make independent determination of the suitability and completeness of information from all sources to ensure proper use and disposal of the materials and safety and health of employees and customers.

CAS Registry Number(R) is a Registered Trademark of the American Chemical Society.

### References

- 1 :
  - IARC Monographs on the Evaluation Carcinogenic Risks to Humans (WHO.International Agency for Research on Cancer)
  - National Toxicology Program(NTP) Report on Carcinogens (NTP)
  - TLVs and BEIs (American Conference of Governmental Industrial Hygienists)
  - REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 ANNEX VI on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
  - Journal of Occupational Health(Japan Society for Occupational Health)
- 2 :
  - REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- 3 :
  - 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)