



## MATERIAL SAFETY DATA SHEET

Date/ Revision: December 16, 2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Cyan developer for FS-C5100DN, C5200DN, C5300DN, C5350DN  
Manufacturer  
Name : KYOCERA MITA CORPORATION  
Address : 2-28, 1-Chome, Tamatsukuri, Chuo-ku, Osaka, Japan, 540-8585  
Supplier  
Name : KYOCERA MITA Europe B.V  
Address : Hoeksteen 40, 2132 MS Hoofddorp, Netherlands  
Telephone Number : +31-(0)20-6540000

### 2. COMPOSITION/ INFORMATION ON INGREDIENTS

Substance or preparation ; Preparation

Ingredients ;

Chemical Name(Common Name)	CAS No.	Weight %
Ferrite (Ferrite including manganese)	66402-68-4	85-95 (as Mn:15-20)
Polyester resin	Confidential	5-10

### 3. HAZARDS IDENTIFICATION

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

### 4. FIRST-AID MEASURES

Inhalation : Remove from exposure to fresh air and gargle with plenty of water.  
Consult a doctor in case of such a 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 developer. 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 developer release.
- Environmental Precautions : No special precaution.
- Method for Cleaning Up : Gather the released developer not to blowing away and wipe up with a wet cloth.

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## 7. HANDLING AND STORAGE

- Handling : Never open the developer unit.
- Storage : Keep the developer unit 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(2008)-TWA : Inhalable fraction 10mg/m<sup>3</sup>, Respirable fraction 3mg/m<sup>3</sup>  
Manganese compounds(Ferrite component) 0.2mg/m<sup>3</sup> (as Mn)
- OSHA PEL(2006)-TWA : Total dust 15mg/m<sup>3</sup>, Respirable fraction 5mg/m<sup>3</sup>  
Manganese compounds(Ferrite component) 5mg/m<sup>3</sup> (Ceiling)(as Mn)
- 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: Cyan      Odor: Odorless
- pH : N.A.
- Melting Point : N.A.
- 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 : 3.5-5.0 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 [Toner]  
(Estimated from other products containing same materials.)  
(rat)LD<sub>50</sub>>2,000mg/kg [Carrier]  
(Estimated from other products containing same materials.)

Acute dermal toxicity : (rat)LD<sub>50</sub>>2,000mg/kg [Toner]  
(Estimated from Acute oral toxicity for same product.)

Acute inhalation toxicity : (rat)LC<sub>50</sub>(4hr)>4.98mg/l [Toner]  
[This value is the maximum attainable concentration for dust.]  
(Estimated from other products containing same materials.)

Acute eye irritation : (rabbit)Minimal irritant [Toner]  
(Estimated from other products containing same materials.)

Acute skin irritation : (rabbit)Mild irritant [Toner]  
(Estimated from other products containing same materials.)  
(rabbit)Non irritant [Carrier]  
(Estimated from other products containing same materials.)

Skin sensitization : (mouse)Non-Sensitiser [Toner]  
(Estimated from other products containing same materials.)  
(guinea pig)Non-Sensitiser [Carrier]  
(Estimated from other products containing same materials.)

Mutagenicity : Ames Test is Negative. [Toner]  
(Estimated from other products containing same materials.)  
Ames Test is Negative. [Carrier]  
(Estimated from other products containing same materials.)

Reproductive Toxicity : No reproductive toxicant, according to MAK, California  
Proposition 65, TRGS905 and EU Directive(67/548/EEC).

Carcinogenicity : No carcinogen or potential carcinogen, according to IARC,  
Japan Association on Industrial Health, ACGIH, EPA, OSHA,NTP,  
ILO, MAK, California Proposition 65, TRGS 905 and  
EU Directive(67/548/EEC).

### 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. 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

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## 12. ECOLOGICAL INFORMATION

No data available

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## 13. DISPOSAL CONSIDERATIONS

Do not incinerate developer and developer unit. 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/EEC.

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 components 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.  
<Abbreviation>

ACGIH	: American Conference of Governmental Industrial Hygienists
PEL	: Permissible Exposure Limit
OSHA	: Occupational Safety and Health Administration
TLV	: Threshold Limit Value
TWA	: Time Weighted Average
MAK	: MAK(Maximale Arbeitsplatzkonzentrationen) unter Deutsche Forschungsgemeinschaft
TRGS	: Technische Regeln für Gefahrstoffe(Deutsche)
IARC	: International Agency for Research on Cancer
EPA	: Environmental Protection Agency(USA)
NTP	: National Toxicology Program
ILO	: International Labour Office
UN	: Nnited Nations
TSCA	: Toxic Substances Control Act(USA)

<Reference>

- ISO 11014-1 Safety data sheet for chemical products
- Commission Directive 91/155/EEC and 2001/58/EC
- 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)