

MATERIAL SAFETY DATA SHEET

Issue date: Aug.27.2007

Revised date:

1. PRODUCT & COMPANY IDENTIFICATION

[Product Identification]

Cyan toner for KIP Color 80

[Company Identification]

Name: Katsuragawa Electric CO.,LTD.

Address: 21-1, Shimomaruko 4-chome, Ohta-ku, Tokyo 146-8585, Japan

Telephone: 81-3-3758-3550

Facsimile: 81-3-3758-7568

2. COMPOSITION/INFORMATION ON INGREDIENTS

[Composition / Information]

Substance [] Preparation [X]

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polyester resin	186397-54-6	80-95%	Not applicable	Not applicable	Not available
Wax	9003-07-0	1-5%	Not applicable	Not applicable	Not available
Organic boron compound	114803-11-1	<1%	Not applicable	Not applicable	Not available
Organic pigment (Blue)	147-14-8	3-10%	Not applicable	Not applicable	Not available
Silica	7631-86-9	1-3%	20mppcf, 80mg/m3/%SiO2	10mg/m3	Not available

[Further Information]

No known.

3. HAZARDS IDENTIFICATION

[Potential Health Effects]

Ingestion Effects:

Ingestion is not applicable route of entry for intended use.

Inhalation Effects:

Minimal respiratory tract irritation may occur with exposure to large amount of toner dust.

Eye Effects:

Solid or dusts may cause irritation or scratch the surface of eye.

Skin Effects:

Unlikely to cause skin irritation.

[Environmental Hazards]

No particular hazards known.

4. FIRST-AID MEASURES

Ingestion:

Dilute stomach contents with several glasses of water. Get medical attention if symptoms persist.

Inhalation:

Move person to fresh air immediately. If symptoms occur, consult a physician.

Eye Contact:

Immediately flush with large amount of clean water for at least 15 minutes. If irritation persists, consult a physician.

Skin Contact:

Wash affected areas thoroughly with soap and water. If irritation persists, consult a physician.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Water, foam, dry chemical

Special Fire-fighting Procedure:

Keep personnel removed from and upwind of fire. Wear respiratory protection. Cool container with water spray.

Unusual Fire & Explosion Hazards:

Toner material, like most organic material in powder form, is capable of creating a dust explosion.

6. ACCIDENTAL RELEASE MEASURES

Spill and Leakage Procedure:

Wear personal protective equipment as described in Section 8. Avoid breathing dust. Minimize the release of particles. Vacuum or sweep the material into a bag or other sealed container. Dispose of waste toner in accordance with local requirements.

Environmental precautions:

Do not discharge into drains.

7. HANDLING & STORAGE

Advise on safe handling and protection against fire:

Keep material out of reach of children. Avoid inhalation of dust and contact with eyes. Keep away from excessive heat, sparks, and open flames.

Requirements for storage rooms and advice on compatibility:

Keep out of the reach of children. Keep container closed and store at room temperature. Keep away from strong oxidizers.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Limits:

ACGIH TLV: Particulates (Insoluble) Not Otherwise Specified
10mg/m³ (Inhalable Particulate)
3mg/m³ (Respirable Particulate)

OSHA PEL: Inert or Nuisance Dust
15mg/m³ (Total dust)
5mg/m³ (Respirable fraction)

Respiratory Protection: Dust respiratory mask

Ventilation: Good general ventilation should be sufficient under intended use.

Protective Gloves: Use leather gloves for hand protection.

Eye Protection: Protecting glasses

Other Protective Equipment: Not required under intended use.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance and odor: Fine powder, blue, slight plastic odor.

Density : About 1.2g/ cm³ *1

Boiling Point: Not applicable

Melting Point: Not applicable

Solubility in Water: Negligible

Solubility in Other Solvent: Partially soluble in toluene and THF

Percent Volatile by Volume: Not applicable

Flammable Limits: Not applicable

Flash Point: Not applicable

Log Po/w: Not applicable

Explosibility: No data available. Based on the EC labeling criteria, any components in this product are not classified as explosive. *1

Flammability: No data available. Based on the EC labeling criteria, any components in this product are not classified as flammable. *1

10. STABILITY & REACTIVITY

Stability & Reactivity: Stable. Hazardous polymerization will not occur.

Materials to Avoid: None

Hazardous Decomposition Products: Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute Effects

Oral:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when swallowed. *1

Dermal:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when absorbed via the skin. *1

Inhalation:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when inhaled. *1

Eye Contact:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "irritant" when contacted with the ocular tissue. *1

Skin Contact:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "irritant" when contacted with the skin. *1

Sensitization:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as a sensitizer. *1

Chronic Toxicity:

Oral:

No test data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Dermal:

No test data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Inhalation:

No test data available.

In a study in rats of 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/m³) exposure group. And a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/ m³) exposure group. But no pulmonary change was reported in the lowest (1mg/ m³) exposure group, the most relevant level to potential human exposures.

Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Mutagenicity:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "mutagenic" if they are inhaled or ingested or if they penetrate the skin. *1

Carcinogenicity:

No data available. The composition materials of this product are not a known or suspected carcinogen according to any IARC Monograph, EU Directive, or OSHA Regulations (USA). *1

Reproductive Toxicity:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous category of "toxic for reproduction". *1

12. ECOLOGICAL INFORMATION

No data available for ecological and wastewater treatment (sewage) systems. Avoid spills and dispose of in accordance with applicable laws and regulations.

Aquatic Environment: No data available. According to Annex 1 to Directive 67/548/EEC, the composition materials of this product are not classified as dangerous for the environment. *1

13. DISPOSAL CONSIDERATION

[Waste From This Product]

Waste material may be dumped or incinerated on condition that meets all country, state and local environmental regulations.

Recommendation: consult with the disposal agency and the relevant authorities; cleansing agent is water.

14. TRANSPORT INFORMATION

[International Transport Information]

UN Number: None

Hazards Class: None

15. REGULATORY INFORMATION

Label Information According to the DIRECTIVE 1999/45/EC (EU): None

Please refer to any other national measures that may be relevant.

16. OTHER INFORMATION

[MSDS STATUS]

Documents list

- *1 • COMMISSION DIRECTIVE 2004/73/EC of 29 April 2004 adapting to the technical progress for the 29th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances
- IARC Monographs volumes 1-79
- EPA, Proposed Guidelines for Carcinogen Risk Assessment (1986)

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CYAN

MATERIAL SAFETY DATA SHEET

Issue date: Aug.27.2007

Revised date:

1. PRODUCT & COMPANY IDENTIFICATION

[Product Identification]

Magenta toner for KIP Color 80

[Company Identification]

Name: Katsuragawa Electric CO.,LTD.

Address: 21-1, Shimomaruko 4-chome, Ohta-ku, Tokyo 146-8585, Japan

Telephone: 81-3-3758-3550

Facsimile: 81-3-3758-7568

2. COMPOSITION/INFORMATION ON INGREDIENTS

[Composition / Information]

Substance [] Preparation [X]

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polyester resin	186397-54-6	80-95%	Not applicable	Not applicable	Not available
Wax	9003-07-0	1-5%	Not applicable	Not applicable	Not available
Organic boron compound	114803-11-1	<1%	Not applicable	Not applicable	Not available
Organic pigment (Red)	980-26-7	3-10%	Not applicable	Not applicable	Not available
Silica	7631-86-9	1-3%	20mppcf, 80mg/m3/%SiO2	10mg/m3	Not available

[Further Information]

No known.

3. HAZARDS IDENTIFICATION

[Potential Health Effects]

Ingestion Effects:

Ingestion is not applicable route of entry for intended use.

Inhalation Effects:

Minimal respiratory tract irritation may occur with exposure to large amount of toner dust.

Eye Effects:

Solid or dusts may cause irritation or scratch the surface of eye.

Skin Effects:

Unlikely to cause skin irritation.

[Environmental Hazards]

No particular hazards known.

4. FIRST-AID MEASURES

Ingestion:

Dilute stomach contents with several glasses of water. Get medical attention if symptoms persist.

Inhalation:

Move person to fresh air immediately. If symptoms occur, consult a physician.

Eye Contact:

Immediately flush with large amount of clean water for at least 15 minutes. If irritation persists, consult a physician.

Skin Contact:

Wash affected areas thoroughly with soap and water. If irritation persists, consult a physician.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Water, foam, dry chemical

Special Fire-fighting Procedure:

Keep personnel removed from and upwind of fire. Wear respiratory protection. Cool container with water spray.

Unusual Fire & Explosion Hazards:

Toner material, like most organic material in powder form, is capable of creating a dust explosion.

6. ACCIDENTAL RELEASE MEASURES

Spill and Leakage Procedure:

Wear personal protective equipment as described in Section 8. Avoid breathing dust. Minimize the release of particles. Vacuum or sweep the material into a bag or other sealed container. Dispose of waste toner in accordance with local requirements.

Environmental precautions:

Do not discharge into drains.

7. HANDLING & STORAGE

Advise on safe handling and protection against fire:

Keep material out of reach of children. Avoid inhalation of dust and contact with eyes. Keep away from excessive heat, sparks, and open flames.

Requirements for storage rooms and advice on compatibility:

Keep out of the reach of children. Keep container closed and store at room temperature. Keep away from strong oxidizers.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Limits:

ACGIH TLV: Particulates (Insoluble) Not Otherwise Specified
 10mg/m³ (Inhalable Particulate)
 3mg/m³ (Respirable Particulate)

OSHA PEL: Inert or Nuisance Dust
 15mg/m³ (Total dust)
 5mg/m³ (Respirable fraction)

Respiratory Protection: Dust respiratory mask

Ventilation: Good general ventilation should be sufficient under intended use.

Protective Gloves: Use leather gloves for hand protection.

Eye Protection: Protecting glasses

Other Protective Equipment: Not required under intended use.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance and odor: Fine powder, red, slight plastic odor.

Density : About 1.2g/ cm³ *1

Boiling Point: Not applicable

Melting Point: Not applicable

Solubility in Water: Negligible

Solubility in Other Solvent: Partially soluble in toluene and THF

Percent Volatile by Volume: Not applicable

Flammable Limits: Not applicable

Flash Point: Not applicable

Log Po/w: Not applicable

Explosibility: No data available. Based on the EC labeling criteria, any components in this product are not classified as explosive. *1

Flammability: No data available. Based on the EC labeling criteria, any components in this product are not classified as flammable. *1

10. STABILITY & REACTIVITY

Stability & Reactivity: Stable. Hazardous polymerization will not occur.

Materials to Avoid: None

Hazardous Decomposition Products: Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute Effects

Oral:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when swallowed. *1

Dermal:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when absorbed via the skin. *1

Inhalation:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when inhaled. *1

Eye Contact:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "irritant" when contacted with the ocular tissue. *1

Skin Contact:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "irritant" when contacted with the skin. *1

Sensitization:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as a sensitizer. *1

Chronic Toxicity:

Oral:

No test data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Dermal:

No test data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Inhalation:

No test data available.

In a study in rats of 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/m³) exposure group. And a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/ m³) exposure group. But no pulmonary change was reported in the lowest (1mg/ m³) exposure group, the most relevant level to potential human exposures.

Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Mutagenicity:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "mutagenic" if they are inhaled or ingested or if they penetrate the skin. *1

Carcinogenicity:

No data available. The composition materials of this product are not a known or suspected carcinogen according to any IARC Monograph, EU Directive, or OSHA Regulations (USA). *1

Reproductive Toxicity:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous category of "toxic for reproduction". *1

12. ECOLOGICAL INFORMATION

No data available for ecological and wastewater treatment (sewage) systems. Avoid spills and dispose of in accordance with applicable laws and regulations.

Aquatic Environment: No data available. According to Annex 1 to Directive 67/548/EEC, the composition materials of this product are not classified as dangerous for the environment. *1

13. DISPOSAL CONSIDERATION

[Waste From This Product]

Waste material may be dumped or incinerated on condition that meets all country, state and local environmental regulations.

Recommendation: consult with the disposal agency and the relevant authorities; cleansing agent is water.

14. TRANSPORT INFORMATION

[International Transport Information]

UN Number: None

Hazards Class: None

15. REGULATORY INFORMATION

Label Information According to the DIRECTIVE 1999/45/EC (EU): None

Please refer to any other national measures that may be relevant.

16. OTHER INFORMATION

[MSDS STATUS]

Documents list

- *1 • COMMISSION DIRECTIVE 2004/73/EC of 29 April 2004 adapting to the technical progress for the 29th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances
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MAGENTA

MATERIAL SAFETY DATA SHEET

Issue date: Aug.27.2007

Revised date:

1. PRODUCT & COMPANY IDENTIFICATION

[Product Identification]

Yellow toner for KIP Color 80

[Company Identification]

Name: Katsuragawa Electric CO.,LTD.

Address: 21-1, Shimomaruko 4-chome, Ohta-ku, Tokyo 146-8585, Japan

Telephone: 81-3-3758-3550

Facsimile: 81-3-3758-7568

2. COMPOSITION/INFORMATION ON INGREDIENTS

[Composition / Information]

Substance [] Preparation [X]

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polyester resin	186397-54-6	80-95%	Not applicable	Not applicable	Not available
Wax	9003-07-0	1-5%	Not applicable	Not applicable	Not available
Organic boron compound	114803-11-1	<1%	Not applicable	Not applicable	Not available
Organic pigment (Yellow)	6358-31-2	3-10%	Not applicable	Not applicable	Not available
Silica	7631-86-9	1-3%	20mppcf, 80mg/m3/%SiO2	10mg/m3	Not available

[Further Information]

No known.

3. HAZARDS IDENTIFICATION

[Potential Health Effects]

Ingestion Effects:

Ingestion is not applicable route of entry for intended use.

Inhalation Effects:

Minimal respiratory tract irritation may occur with exposure to large amount of toner dust.

Eye Effects:

Solid or dusts may cause irritation or scratch the surface of eye.

Skin Effects:

Unlikely to cause skin irritation.

[Environmental Hazards]

No particular hazards known.

4. FIRST-AID MEASURES

Ingestion:

Dilute stomach contents with several glasses of water. Get medical attention if symptoms persist.

Inhalation:

Move person to fresh air immediately. If symptoms occur, consult a physician.

Eye Contact:

Immediately flush with large amount of clean water for at least 15 minutes. If irritation persists, consult a physician.

Skin Contact:

Wash affected areas thoroughly with soap and water. If irritation persists, consult a physician.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Water, foam, dry chemical

Special Fire-fighting Procedure:

Keep personnel removed from and upwind of fire. Wear respiratory protection. Cool container with water spray.

Unusual Fire & Explosion Hazards:

Toner material, like most organic material in powder form, is capable of creating a dust explosion.

6. ACCIDENTAL RELEASE MEASURES

Spill and Leakage Procedure:

Wear personal protective equipment as described in Section 8. Avoid breathing dust. Minimize the release of particles. Vacuum or sweep the material into a bag or other sealed container. Dispose of waste toner in accordance with local requirements.

Environmental precautions:

Do not discharge into drains.

7. HANDLING & STORAGE

Advise on safe handling and protection against fire:

Keep material out of reach of children. Avoid inhalation of dust and contact with eyes. Keep away from excessive heat, sparks, and open flames.

Requirements for storage rooms and advice on compatibility:

Keep out of the reach of children. Keep container closed and store at room temperature. Keep away from strong oxidizers.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Limits:

ACGIH TLV: Particulates (Insoluble) Not Otherwise Specified
10mg/m³ (Inhalable Particulate)
3mg/m³ (Respirable Particulate)

OSHA PEL: Inert or Nuisance Dust
15mg/m³ (Total dust)
5mg/m³ (Respirable fraction)

Respiratory Protection: Dust respiratory mask

Ventilation: Good general ventilation should be sufficient under intended use.

Protective Gloves: Use leather gloves for hand protection.

Eye Protection: Protecting glasses

Other Protective Equipment: Not required under intended use.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance and odor: Fine powder, yellow, slight plastic odor.

Density : About 1.2g/ cm³ *1

Boiling Point: Not applicable

Melting Point: Not applicable

Solubility in Water: Negligible

Solubility in Other Solvent: Partially soluble in toluene and THF

Percent Volatile by Volume: Not applicable

Flammable Limits: Not applicable

Flash Point: Not applicable

Log Po/w: Not applicable

Explosibility: No data available. Based on the EC labeling criteria, any components in this product are not classified as explosive. *1

Flammability: No data available. Based on the EC labeling criteria, any components in this product are not classified as flammable. *1

10. STABILITY & REACTIVITY

Stability & Reactivity: Stable. Hazardous polymerization will not occur.

Materials to Avoid: None

Hazardous Decomposition Products: Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute Effects

Oral:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when swallowed. *1

Dermal:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when absorbed via the skin. *1

Inhalation:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "very toxic", "toxic" and "harmful" when inhaled. *1

Eye Contact:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "irritant" when contacted with the ocular tissue. *1

Skin Contact:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "irritant" when contacted with the skin. *1

Sensitization:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as a sensitizer. *1

Chronic Toxicity:

Oral:

No test data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure). *1

Dermal:

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Inhalation:

No test data available.

In a study in rats of 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/m³) exposure group. And a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/ m³) exposure group. But no pulmonary change was reported in the lowest (1mg/ m³) exposure group, the most relevant level to potential human exposures.

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Mutagenicity:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous categories of "mutagenic" if they are inhaled or ingested or if they penetrate the skin. *1

Carcinogenicity:

No data available. The composition materials of this product are not a known or suspected carcinogen according to any IARC Monograph, EU Directive, or OSHA Regulations (USA). *1

Reproductive Toxicity:

No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous category of "toxic for reproduction". *1

12. ECOLOGICAL INFORMATION

No data available for ecological and wastewater treatment (sewage) systems. Avoid spills and dispose of in accordance with applicable laws and regulations.

Aquatic Environment: No data available. According to Annex 1 to Directive 67/548/EEC, the composition materials of this product are not classified as dangerous for the environment. *1

13. DISPOSAL CONSIDERATION

[Waste From This Product]

Waste material may be dumped or incinerated on condition that meets all country, state and local environmental regulations.

Recommendation: consult with the disposal agency and the relevant authorities; cleansing agent is water.

14. TRANSPORT INFORMATION

[International Transport Information]

UN Number: None

Hazards Class: None

15. REGULATORY INFORMATION

Label Information According to the DIRECTIVE 1999/45/EC (EU): None

Please refer to any other national measures that may be relevant.

16. OTHER INFORMATION

[MSDS STATUS]

Documents list

- *1 • COMMISSION DIRECTIVE 2004/73/EC of 29 April 2004 adapting to the technical progress for the 29th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances
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YELLOW

MATERIAL SAFETY DATA SHEET

Issue date: **Aug. 22, 2007**

1. PRODUCT & COMPANY IDENTIFICATION

[Product Identification]

Black Toner for KIP Color 80

[Company Identification]

Name : **Katsuragawa Electric CO.,LTD.**Address: **21-1, Shimomaruko 4-chome, Ohta-ku, Tokyo 146-8585, Japan**Telephone : **81-3-3758-3550** Facsimile : **81-3-3758-7568**

2. COMPOSITION/INFORMATION ON INGREDIENTS

[Composition / Information]

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polyester resin	186397-54-6	65-75%	Not listed	Not listed	None
Polyester resin	148556-68-7	15-25%	Not listed	Not listed	None
Carbon black	1333-86-4	3-7%	3.5mg/m3	3.5mg/m3	None
Polypropylene	9003-07-0	1-5%	Not listed	Not listed	None
Dye	104815-18-1	0.5-1.5%	Not listed	Not listed	None

[Further Information]

No known.

3. HAZARDS IDENTIFICATION

[Potential Health Effects]

Ingestion Effects :

Ingestion is not applicable route of entry for intended use.

Inhalation Effects :

Minimal respiratory tract irritation may occur with exposure to large amount of toner dust.

Eye Effects :

Solid or dusts may cause irritation or scratch the surface of eye.

Skin Effects :

Unlikely to cause skin irritation.

[Environmental Hazards]

No particular hazards known.

4. FIRST-AID MEASURES

Ingestion :

Dilute stomach contents with several glasses of water. Get medical attention if symptoms persist.

Inhalation :

Move person to fresh air immediately. If symptoms occur, consult a physician.

Eye Contact:

Immediately flush with large amount of clean water for at least 15 minutes. If irritation persists, consult a physician.

Skin Contact:

Wash affected areas thoroughly with soap and water. If irritation persists, consult a physician.

5. FIRE-FIGHTING MEASURES

Extinguishing Media :

CO2, water, dry chemical

Special Fire-fighting Procedure :

None

Unusual Fire & Explosion Hazards :

Toner material, like most organic material in powder form, is capable of creating a dust explosion.

6. ACCIDENTAL RELEASE MEASURES

Spill and Leakage Procedure :

Wear personal protective equipment as described in Section 8. Avoid breathing dust. Minimize the release of particles. Vacuum or sweep the material into a bag or other sealed container. Dispose of waste toner in accordance with local requirements.

Environmental precautions :

Do not discharge into drains .

7. HANDLING & STORAGE

Advise on safe handling and protection against fire :

Keep material out of reach of children. Avoid inhalation of dust and contact with eyes. Keep away from excessive heat, sparks, and open flames.

Requirements for storage rooms and advice on compatibility :

Keep out of the reach of children. Keep container closed and store at room temperature. Keep away from strong oxidizers.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Limits For Toner :

ACGIH TLV : **10mg/m³ (Inhalable Particulate)**
3mg/m³ (Respirable Particulate)

Respiratory Protection : **Not required under intended use.**

Ventilation: **Good general ventilation should be sufficient under intended use.**

Protective Gloves : **Not required under intended use.**

Eye Protection : **Not required under intended use.**

Other Protective Equipment : **Not required under intended use.**

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance and odor : **Fine black powder, slight plastic odor.**

Density : **1.1-1.3g/ cm³**

Boiling Point : **Not applicable**

Melting Point : **120-130 degrees centigrade (Softening Point)**

Vapor Pressure : **Not applicable**

Solubility in Water : **Negligible**

Solubility in Other Solvent : **Partially soluble in toluene and THF**

Percent Volatile by Volume : **Not applicable**

Flammable Limits : **Not applicable**

Flammability : **No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous category of “extremely flammable”, “highly flammable” and “flammable”.**

Explosibility : **No test data available. Based on the EC labeling criteria, any components in this product are not classified as the dangerous category of “explosive”.**

10. STABILITY & REACTIVITY

Stability & Reactivity : **Stable. Hazardous polymerization will not occur.**

Materials to Avoid : **None**

Hazardous Decomposition Products : **Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.**

11. TOXICOLOGICAL INFORMATION

Acute Effects

Oral:

Acute oral LD50 of the toner was estimated to be greater than 2000mg/kg in the rat.

Dermal:

No data available. Based on the EC labeling criteria, any components of the toner are not classified as the dangerous category of “very toxic”, “toxic” and “harmful” when absorbed via the skin.

Inhalation:

No data available. Based on the EC labeling criteria, any components of the toner are not classified as the dangerous category of “very toxic”, “toxic” and “harmful” when inhaled.

Eye Contact:

Based on the EC labeling criteria, the toner was classified as a nonirritant to the ocular tissue of the rabbit.

Skin Contact:

Based on the EC evaluation criteria, the toner was classified as a nonirritant to the skin of the rabbit.

Sensitization:

No data available. Based on the EC labeling criteria, any components of the toner are not classified as the dangerous category of “sensitizing” if they penetrate the skin.

Chronic Toxicity

Oral:

No data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure).

Dermal:

No data available. Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure).

Inhalation:

No data available.

In a study in rats of 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/m³) exposure group. And a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/ m³) exposure group. But no pulmonary change was reported in the lowest (1mg/ m³) exposure group, the most relevant level to potential human exposures.

Based on the EC labeling criteria, any components in this product are not required a risk phrase R48 (danger for serious damage to health by prolonged exposure).

Mutagenicity:

The result of Ames test of the toner was negative.

Carcinogenicity:

No data available. Based on the EC labeling criteria, any components of the toner are not classified as the dangerous category of “carcinogenic” if they are inhaled or ingested or if they penetrate the skin.

In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

Reproductive Toxicity:

No test data available. Based on the EC labeling criteria, any components of the toner are not classified as the dangerous category of “toxic for reproduction” if they are inhaled or ingested or if they penetrate the skin.

12. ECOLOGICAL INFORMATION

No data available for ecological and wastewater treatment (sewage) systems. Avoid spills and dispose of in accordance with applicable laws and regulations.

Environmental Effects:

No data available. Based on the EC labeling criteria, any components of the toner are not classified as the dangerous category of “dangerous for the environment”.

13. DISPOSAL CONSIDERATION

[Waste From This Product]

Waste material may be dumped or incinerated on condition that meets all country, state and local environmental regulations.

Recommendation : consult with the disposal agency and the relevant authorities; cleansing agent is water.

14. TRANSPORT INFORMATION

[International Transport Information]

UN Number : **None**

Hazards Class: **None**

15. REGULATORY INFORMATION

Label Information According to the DIRECTIVE 1999/45/EEC (EU) : **None**

Please refer to any other national measures that may be relevant.

16. OTHER INFORMATION

[MSDS STATUS]

References:

1. COMMISSION DIRECTIVE 2001/59/EC of 6 August 2001 adapting to the technical progress for the 28th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances
2. DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labeling of dangerous preparations

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