

MATERIAL SAFETY DATA SHEET

Revision: T-02

1. PRODUCT & COMPANY IDENTIFICATION

[Product Identification]

Toner for KIP3100.

[Company Identification]

Name: **Katsuragawa Electric Co.,Ltd**Address: **21-1,Shimomaruko 4-chome,ota-ku, Tokyo, 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
Polyester resin	186397-54-6	65-75%	Not listed	Not listed
Polyester resin	148556-68-7	15-25%	Not listed	Not listed
Carbon black	1333-86-4	3-7%	3.5mg/m3	3.5mg/m3
Polypropylene	9003-07-0	1-5%	Not listed	Not listed
Dye	104815-18-1 or 125304-21-4 or 119029-85-5 or 115706-73-5	0.5-1.5%	Not listed	Not listed
Pigment	147-14-8	0.1-1%	Not listed	Not listed
Silica	7631-86-9	1-3%	6mg/m3	10mg/m3

[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**

California Proposition 65:

Ingredient carbon black subject to California Proposition 65 is bound in polymer-matrices so that warnings are not required.

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

16. OTHER INFORMATION

[MSDS STATUS]

References:

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
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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