Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: KIP 800 Series Cyan Toner

Product Code: 01C
Relevant identified uses: Toner for electrophotographic apparatus

Supplier: KATSURAGAWA ELECTRIC CO., LTD.
Address: 21-1, Shimomaruko 4-Chome, Ota-ku, Tokyo 146-8585, Japan
Telephone number: +81-3-3758-3550
FAX number: +81-3-3758-7568

SECTION 2 HAZARDS IDENTIFICATION

2.1 Emergency Overview:
Cyan fine powder with little or no odor.
Risk of dust-explosion if finely dispersed in air with an ignition source.

2.2 OSHA Regulatory Status:
Classification under GHS: Not classified
GHS Label Elements: None

2.3 Potential Health Effects:
No significant hazards known. See SECTION 11 for details

2.4 Potential Environmental Effects:
No significant hazards known. See SECTION 12 for details

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Substance/Mixture: Mixture

Ingredient Name	Weight %	CAS No.
Saturated polyester resin	85-95	186397-54-6
Pigment	1-5	147-14-8
Silica, treated	1-5	67762-90-7
Wax	1-5	9003-07-0

SECTION 4 FIRST AID MEASURES

Inhalation:

Move to fresh air and gargle with water.

If accompanied with breathing difficulty, take first aid measures such as artificial respiration and call a physician immediately.

Skin contact:

Wash with soap and water.

Eye contact:

Do not rub. Flush with large amount of water until particles are removed.

Seek medical advice

Ingestion:

Rinse mouth. Seek medical advice.

SECTION 5 FIREFIGHTING MEASURES

5.1 Suitable Extinguishing media:

Water spray or fog, CO_2, dry chemicals

5.2 Unsuitable Extinguishing media:

Strong water current may cause powder to disperse and form explosive dust-air mixture.

5.3 Protection of firefighters

Specific hazards arising from the chemical:

Fine powder may form explosive dust-air mixture if finely dispersed in air.

Fume and smoke may include toxic substances such as aromatic compounds.

Protective equipment and precautions for firefighters

Avoid inhalation of fume and smoke.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid breathing dust. Dust-proof masks should be worn when working.

6.2 Environmental precautions:

Do not flush into sewer or natural watercourse.

6.3 Methods for containment:

Keep in air-tight container.

6.4 Methods for cleaning up:

Sweep the spilled powder slowly.

Clean the remainder with wet cloth, wet paper, or vacuum cleaner.

Vacuum cleaner must be equipped with dust proof filter and must be explosion-proof.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid breathing dust.

Keep away from ignition sources, especially where dust concentration may become high.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry location away from direct sunlight.

SECTION 8 Exposure contols/personal protection

8.1 Control parameters:

	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
As toner mixture	15mg/m^3(Inhalable fraction) 5mg/m3(Resipable fraction)	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.
Carbon black	3.5mg/m^3	N.E.	3.5mg/m^3	N.E.
Silica	6mg/m^3	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.

(N.E.= Not Established)

8.2 Engineering controls:

Use of local ventilation is recommended.

8.3 Personal protective equipment:

Eye/face protection:	Protective goggles is recommended if necessary.
Skin Protection:	Not required
Respiratory protection:	Dust-proof mask should be used when handling bulk.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Cyan powder
Odor:	Slight odor
pH:	Not applicable
Melting point:	App. 140°C (Flow temperature)
Boiling point:	No data
Flash point:	No data
Evaporation rate:	No data
Flammability:	Not flammable (according to GHS classification)
Explosive limits:	No data
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	1.1-1.3
Solubility:	Insoluble to water, partially soluble to toluene and xylene.
Partition coefficient:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	>200°C
Viscosity:	Not applicable
Explosive properties:	Can form explosive dust-air mixtures when finely dispersed in air
Oxidizing properties:	Not applicable

9.2 Other information:

Particle Size:	app. 8.0μm (D_{50})

SECTION 10 Stability and reactivity

10.1 Reactivity: None
10.2 Possibility of hazardous reactions: None
10.3 Chemical stability: Stable
10.4 Conditions to avoid: None
10.5 Incompatible materials: None
10.6 Hazardous decomposition products: No data

SECTION 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

Inhalation:	LC_{50} ; inh-rat>1.45mg/L/4 hours*, not harmful. (maximum achievable concentration)
Ingestion:	LD_{50} > 2000mg/kg*, not harmful
Irritation:	
Eye:	Not classified as irritant* **
Skin:	Not classified as irritant* **
Corrosivity:	Not available
Sensitisation:	Not classified as a sensitizer* **
Carcinogenicity:	Not available
Mutagenicity:	Ames test negative*
Reproductive toxicity:	Not available
STOT –single exposure:	Not available
STOT –RE:	Not available
Aspiration hazards:	Not available

**data from toner with similar composition.*

***according to GHS classifications*

SECTION 12 Ecological information

12.1 Ecotoxicity

Fish(*Oryzias latipes*): LC_{50}(96hr) > 100mg/L (WAF)*

Crustaceans(*Daphnia magna*): EC_{50}(48hr) > 100mg/L (WAF)*

Algae(*Pseudokirchneriella subcapitata)*: E_rL_{50}(0-72h)>100 mg/L, NOELR=100mg/L (WAF)*

12.2 Persistence and degradability

Not available

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects:

Not available

**data from toner with similar composition.*

SECTION 13 Disposal consideration

Dispose according to local authority requirements.
DO NOT release to sewer or natural watercourse.
DO NOT put toner powder or container into fire.

SECTION 14 Transport information

Basic shipping description

UN number: None
UN proper shipping name: None
Transport hazard class(es): None
Packing group: None
Environmental hazards:
Not classified as environmentally hazardous under UN Model Regulations and marine pollutant under IMDG Code.

Additional information:

Handling such as exposure to water, rolling, falling, or giving shock to the container may result in breakage of the inner bag and result in scattering of the mixture.
Avoid direct sunlight and hot places. (See also: Section 7)

ADR / RID / ADN: not regulated
IMDG Code: not regulated
ICAO-TI / IATA-DGR: not regulated

SECTION 15 Regulatory information

Federal Regulations

TSCA: All ingredients are on the inventory or exempt from listing.
SARA Title III Section 313:
None

State Regulations:

California Proposition 65:
No constituent material is regulated.

SECTION 16 Other information

Issued according to ANSI Z400.1/Z129.1-2010

Indication of changes:

Jan. 26, 2016: First issued

Abbreviations:

CAS: Chemical Abstract Service
OSHA Occupational Safety and Health Administration
PEL Permissible Exposure Limit
ACGIH: American Conference of Governmental Industrial Hygienists
TLV: Threshold Limit Value
TWA: Time weighted Average
STEL: Short Term Exposure Limit

LC_{50}	Lethal Concentration to 50% of test population
LD_{50}	Lethal Dose to 50% of test population
D_{50}	volume-based median (50%) Diameter
IARC:	International Agency for Research on Cancer
STOT:	Specific Target Organ Toxicity
STOT RE	Specific Target Organ Toxicity –Repeated Exposure
WAF	Water Accommodated Fraction
EC_{50}	Effective Concentration to 50% of test population
NOEC	No Observed Effect Concentration
E_rL_{50}	Effective Loading rate that causes growth rate reduction to 50%
NOELR	No Observed Effect Loading Rate
E_bL_{50}	Effective Loading rate that causes 50% reduction in algal cell biomass
PBT	Persistent, Bioaccumulative, and Toxic
UN	United Nations
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail
ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG	International Maritime Dangerous Goods
IATA-DGR:	International Air Transport Association Dangerous Goods Regulations
ICAO-TI:	Technical Instructions for the Safe Transport of Dangerous Goods by Air
TSCA:	Toxic Substances Control Act
SNUR:	Significant New Use Rule
SARA:	Superfund Amendments and Reauthorization Act
ANSI:	American National Standard Institute

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Since MSDS may be revised due to regulation changes or product modifications, please confirm if this is the latest version, especially if the revision date is outdated for two years.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: KIP 800 Series Magenta Toner

Product Code: 01M
Relevant identified uses: Toner for electrophotographic apparatus

Supplier: KATSURAGAWA ELECTRIC CO., LTD.
Address: 21-1, Shimomaruko 4-Chome, Ota-ku, Tokyo 146-8585, Japan+
Telephone number: +81-3-3758-3550
FAX number +81-3-3758-7568

SECTION 2 HAZARDS IDENTIFICATION

2.1 Emergency Overview:
Magenta fine powder with little or no odor.
Risk of dust-explosion if finely dispersed in air with an ignition source.

2.2 OSHA Regulatory Status:
Classification under GHS: Not classified
GHS Label Elements: None

2.3 Potential Health Effects:
No significant hazards known. See SECTION 11 for details

2.4 Potential Environmental Effects:
No significant hazards known. -See SECTION 12 for details

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Substance/Mixture: Mixture

Ingredient Name	Weight %	CAS No.
Saturated polyester resin	80-95	186397-54-6
Pigment	1-5	56396-10-2
Wax	1-5	9003-07-0
Silica	1-5	67762-90-7

SECTION 4 FIRST AID MEASURES

Inhalation:

Move to fresh air and gargle with water.

If accompanied with breathing difficulty, take first aid measures such as artificial respiration and call a physician immediately.

Skin contact:

Wash with soap and water.

Eye contact:

Do not rub. Flush with large amount of water until particles are removed.

Seek medical advice

Ingestion:

Rinse mouth. Seek medical advice.

SECTION 5 FIREFIGHTING MEASURES

5.1 Suitable Extinguishing media:

Water spray or fog, CO_2, dry chemicals

5.2 Unsuitable Extinguishing media:

Strong water current may cause powder to disperse and form explosive dust-air mixture.

5.3 Protection of firefighters

Specific hazards arising from the chemical:

Fine powder may form explosive dust-air mixture if finely dispersed in air.

Fume and smoke may include toxic substances such as aromatic compounds.

Protective equipment and precautions for firefighters

Avoid inhalation of fume and smoke.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid breathing dust. Dust-proof masks should be worn when working.

6.2 Environmental precautions:

Do not flush into sewer or natural watercourse.

6.3 Methods for containment:

Keep in air-tight container.

6.4 Methods for cleaning up:

Sweep the spilled powder slowly.

Clean the remainder with wet cloth, wet paper, or vacuum cleaner.

Vacuum cleaner must be equipped with dust proof filter and must be explosion-proof.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid breathing dust.

Keep away from ignition sources, especially where dust concentration may become high.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry location away from direct sunlight.

SECTION 8 Exposure contols/personal protection

8.1 Control parameters:

	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
As toner mixture	15mg/m^3(Inhalable fraction) 5mg/m3(Resipable fraction)	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.
Carbon black	3.5mg/m^3	N.E.	3.5mg/m^3	N.E.
Silica	6mg/m^3	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.

(N.E.= Not Established)

8.2 Engineering controls:

Use of local ventilation is recommended.

8.3 Personal protective equipment:

Eye/face protection:	Protective goggles is recommended if necessary.
Skin Protection:	Not required
Respiratory protection:	Dust-proof mask should be used when handling bulk.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Magenta powder
Odor:	Slight odor
pH:	Not applicable
Melting point:	App. 140°C (Flow temperature)
Boiling point:	No data
Flash point:	No data
Evaporation rate:	No data
Flammability:	Not flammable (according to GHS classification)
Explosive limits:	No data
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	1.1-1.3
Solubility:	Insoluble to water, partially soluble to toluene and xylene.
Partition coefficient:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	>200°C
Viscosity:	Not applicable
Explosive properties:	Can form explosive dust-air mixtures when finely dispersed in air
Oxidizing properties:	Not applicable

9.2 Other information:

Particle Size:	app. 8.0μm (D_{50})

SECTION 10 Stability and reactivity

10.1 Reactivity: None
10.2 Possibility of hazardous reactions: None
10.3 Chemical stability: Stable
10.4 Conditions to avoid: None
10.5 Incompatible materials: None
10.6 Hazardous decomposition products: No data

SECTION 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

Inhalation:	LC_{50} ; inh-rat>1.45mg/L/4 hours*, not harmful. (maximum achievable concentration)
Ingestion:	LD_{50} > 2000mg/kg*, not harmful
Irritation:	
Eye:	Not classified as irritant* **
Skin:	Not classified as irritant* **
Corrosivity:	Not available
Sensitisation:	Not classified as a sensitizer* **
Carcinogenicity:	Not available
Mutagenicity:	Ames test negative*
Reproductive toxicity:	Not available
STOT –single exposure:	Not available
STOT –RE:	Not available
Aspiration hazards:	Not available

**data from toner with similar composition.*

***according to GHS classifications*

SECTION 12 Ecological information

12.1 Ecotoxicity

Fish(*Oryzias latipes*): LC_{50}(96hr) > 100mg/L (WAF)*

Crustaceans(*Daphnia magna*): EC_{50}(48hr) > 100mg/L (WAF)*

Algae(*Pseudokirchneriella subcapitata)*: E_rL_{50}(0-72h)>100 mg/L, NOELR=100mg/L (WAF)*

12.2 Persistence and degradability

Not available

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects:

Not available

**data from toner with similar composition.*

SECTION 13 Disposal consideration

Dispose according to local authority requirements.
DO NOT release to sewer or natural watercourse.
DO NOT put toner powder or container into fire.

SECTION 14 Transport information

Basic shipping description

UN number: None
UN proper shipping name: None
Transport hazard class(es): None
Packing group: None
Environmental hazards:
Not classified as environmentally hazardous under UN Model Regulations and marine pollutant under IMDG Code.

Additional information:

Handling such as exposure to water, rolling, falling, or giving shock to the container may result in breakage of the inner bag and result in scattering of the mixture.
Avoid direct sunlight and hot places. (See also: Section 7)

ADR / RID / ADN: not regulated
IMDG Code: not regulated
ICAO-TI / IATA-DGR: not regulated

SECTION 15 Regulatory information

Federal Regulations

TSCA: All ingredients are on the inventory or exempt from listing.
SARA Title III Section 313:
None

State Regulations:

California Proposition 65:
No constituent material is regulated.

SECTION 16 Other information

Issued according to ANSI Z400.1/Z129.1-2010

Indication of changes:

Jan. 26, 2016: First issued

Abbreviations:

CAS: Chemical Abstract Service
OSHA Occupational Safety and Health Administration
PEL Permissible Exposure Limit
ACGIH: American Conference of Governmental Industrial Hygienists
TLV: Threshold Limit Value
TWA: Time weighted Average
STEL: Short Term Exposure Limit

LC_{50}	Lethal Concentration to 50% of test population
LD_{50}	Lethal Dose to 50% of test population
D_{50}	volume-based median (50%) Diameter
IARC:	International Agency for Research on Cancer
STOT:	Specific Target Organ Toxicity
STOT RE	Specific Target Organ Toxicity –Repeated Exposure
WAF	Water Accommodated Fraction
EC_{50}	Effective Concentration to 50% of test population
NOEC	No Observed Effect Concentration
E_rL_{50}	Effective Loading rate that causes growth rate reduction to 50%
NOELR	No Observed Effect Loading Rate
E_bL_{50}	Effective Loading rate that causes 50% reduction in algal cell biomass
PBT	Persistent, Bioaccumulative, and Toxic
UN	United Nations
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail
ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG	International Maritime Dangerous Goods
IATA-DGR:	International Air Transport Association Dangerous Goods Regulations
ICAO-TI:	Technical Instructions for the Safe Transport of Dangerous Goods by Air
TSCA:	Toxic Substances Control Act
SNUR:	Significant New Use Rule
SARA:	Superfund Amendments and Reauthorization Act
ANSI:	American National Standard Institute

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Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: KNI-YELLOW Toner

Product Code: 01Y
Relevant identified uses: Toner for electrophotographic apparatus

Supplier: KATSURAGAWA ELECTRIC CO., LTD.
Address: 21-1, Shimomaruko 4-Chome, Ota-ku, Tokyo 146-8585, Japan+
Telephone number: +81-3-3758-3550
FAX number: +81-3-3758-7568

SECTION 2 HAZARDS IDENTIFICATION

2.1 Emergency Overview:
Yellow fine powder with little or no odor.
Risk of dust-explosion if finely dispersed in air with an ignition source.

2.2 OSHA Regulatory Status:
Classification under GHS: Not classified
GHS Label Elements: None

2.3 Potential Health Effects:
No significant hazards known. See SECTION 11 for details

2.4 Potential Environmental Effects:
No significant hazards known. -See SECTION 12 for details

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Substance/Mixture: Mixture

Ingredient Name	Weight %	CAS No.
Saturated polyester resin	85-95	186397-54-6
Pigment	1-5	6358-31-2
Wax	1-5	9003-07-0
Silica	1-5	67762-90-7

SECTION 4 FIRST AID MEASURES

Inhalation:

Move to fresh air and gargle with water.

If accompanied with breathing difficulty, take first aid measures such as artificial respiration and call a physician immediately.

Skin contact:

Wash with soap and water.

Eye contact:

Do not rub. Flush with large amount of water until particles are removed.

Seek medical advice

Ingestion:

Rinse mouth. Seek medical advice.

SECTION 5 FIREFIGHTING MEASURES

5.1 Suitable Extinguishing media:

Water spray or fog, CO_2, dry chemicals

5.2 Unsuitable Extinguishing media:

Strong water current may cause powder to disperse and form explosive dust-air mixture.

5.3 Protection of firefighters

Specific hazards arising from the chemical:

Fine powder may form explosive dust-air mixture if finely dispersed in air.

Fume and smoke may include toxic substances such as aromatic compounds.

Protective equipment and precautions for firefighters

Avoid inhalation of fume and smoke.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid breathing dust. Dust-proof masks should be worn when working.

6.2 Environmental precautions:

Do not flush into sewer or natural watercourse.

6.3 Methods for containment:

Keep in air-tight container.

6.4 Methods for cleaning up:

Sweep the spilled powder slowly.

Clean the remainder with wet cloth, wet paper, or vacuum cleaner.

Vacuum cleaner must be equipped with dust proof filter and must be explosion-proof.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid breathing dust.

Keep away from ignition sources, especially where dust concentration may become high.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry location away from direct sunlight.

SECTION 8 Exposure contols/personal protection

8.1 Control parameters:

	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
As toner mixture	15mg/m^3(Inhalable fraction) 5mg/m3(Resipable fraction)	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.
Carbon black	3.5mg/m^3	N.E.	3.5mg/m^3	N.E.
Silica	6mg/m^3	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.

(N.E.= Not Established)

8.2 Engineering controls:

Use of local ventilation is recommended.

8.3 Personal protective equipment:

Eye/face protection:	Protective goggles is recommended if necessary.
Skin Protection:	Not required
Respiratory protection:	Dust-proof mask should be used when handling bulk.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Yellow powder
Odor:	Slight odor
pH:	Not applicable
Melting point:	App. 140°C (Flow temperature)
Boiling point:	No data
Flash point:	No data
Evaporation rate:	No data
Flammability:	Not flammable (according to GHS classification)
Explosive limits:	No data
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	1.1-1.3
Solubility:	Insoluble to water, partially soluble to toluene and xylene.
Partition coefficient:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	>200°C
Viscosity:	Not applicable
Explosive properties:	Can form explosive dust-air mixtures when finely dispersed in air
Oxidizing properties:	Not applicable

9.2 Other information:

Particle Size:	app. 8.0μm (D_{50})

SECTION 10 Stability and reactivity

10.1 Reactivity: None
10.2 Possibility of hazardous reactions: None
10.3 Chemical stability: Stable
10.4 Conditions to avoid: None
10.5 Incompatible materials: None
10.6 Hazardous decomposition products: No data

SECTION 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

Inhalation:	LC_{50} ; inh-rat>1.45mg/L/4 hours*, not harmful. (maximum achievable concentration)
Ingestion:	LD_{50} > 2000mg/kg*, not harmful
Irritation:	
Eye:	Not classified as irritant* **
Skin:	Not classified as irritant* **
Corrosivity:	Not available
Sensitisation:	Not classified as a sensitizer* **
Carcinogenicity:	Not available
Mutagenicity:	Ames test negative*
Reproductive toxicity:	Not available
STOT –single exposure:	Not available
STOT –RE:	Not available
Aspiration hazards:	Not available

**data from toner with similar composition.*

***according to GHS classifications*

SECTION 12 Ecological information

12.1 Ecotoxicity

Fish(*Oryzias latipes*): LC_{50}(96hr) > 100mg/L (WAF)*

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Algae(*Pseudokirchneriella subcapitata)*: E_rL_{50}(0-72h)>100 mg/L, NOELR=100mg/L (WAF)*

12.2 Persistence and degradability

Not available

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects:

Not available

SECTION 13 Disposal consideration

Dispose according to local authority requirements.
DO NOT release to sewer or natural watercourse.
DO NOT put toner powder or container into fire.

SECTION 14 Transport information

Basic shipping description

UN number: None
UN proper shipping name: None
Transport hazard class(es): None
Packing group: None
Environmental hazards:
Not classified as environmentally hazardous under UN Model Regulations and marine pollutant under IMDG Code.

Additional information:

Handling such as exposure to water, rolling, falling, or giving shock to the container may result in breakage of the inner bag and result in scattering of the mixture.
Avoid direct sunlight and hot places. (See also: Section 7)

ADR / RID / ADN: not regulated
IMDG Code: not regulated
ICAO-TI / IATA-DGR: not regulated

SECTION 15 Regulatory information

Federal Regulations

TSCA: All ingredients are on the inventory or exempt from listing.
SARA Title III Section 313:
None

State Regulations:

California Proposition 65:
No constituent material is regulated.

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IATA-DGR:	International Air Transport Association Dangerous Goods Regulations
ICAO-TI:	Technical Instructions for the Safe Transport of Dangerous Goods by Air
TSCA:	Toxic Substances Control Act
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Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: KIP 800 Series Black Toner

Product Code: 01B
Relevant identified uses: Toner for electrophotographic apparatus

Supplier: KATSURAGAWA ELECTRIC CO., LTD.
Address: 21-1, Shimomaruko 4-Chome, Ota-ku, Tokyo 146-8585, Japan
Telephone number: +81-3-3758-3550
E-mail address: +81-3-3758-7568

SECTION 2 HAZARDS IDENTIFICATION

2.1 Emergency Overview:
Black fine powder with little or no odor.
Risk of dust-explosion if finely dispersed in air with an ignition source.

2.2 OSHA Regulatory Status:
Classification under GHS: Not classified
GHS Label Elements: None

2.3 Potential Health Effects:
No significant hazards known. See SECTION 11 for details

2.4 Potential Environmental Effects:
The ingredient “Zinc(II) complex salt” is classified as “Aquatic Acute 1” and “Aquatic Chronic 1” (very toxic to aquatic life) by GHS.
This mixture, however, has shown enough test data to be classified out of these hazards.
-See SECTION 12 for details

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Substance/Mixture: Mixture

Ingredient Name	Weight %	CAS No.
Saturated polyester resin	85-95	186397-54-6
Carbon Black	2-8	1333-86-4
Wax	1-5	9003-07-0
Silica, treated	1-3	67762-90-7
Zinc(II) complex salt*	0.25-1.0	42405-40-3

** Zinc,(bis[3,5-di(tert-butyl)-2-hydroxybenzoato-O1,O2],(T-4)*

SECTION 4 FIRST AID MEASURES

Inhalation:

Move to fresh air and gargle with water.

If accompanied with breathing difficulty, take first aid measures such as artificial respiration and call a physician immediately.

Skin contact:

Wash with soap and water.

Eye contact:

Do not rub. Flush with large amount of water until particles are removed.

Seek medical advice

Ingestion:

Rinse mouth. Seek medical advice.

SECTION 5 FIREFIGHTING MEASURES

5.1 Suitable Extinguishing media:

Water spray or fog, CO_2, dry chemicals

5.2 Unsuitable Extinguishing media:

Strong water current may cause powder to disperse and form explosive dust-air mixture.

5.3 Protection of firefighters

Specific hazards arising from the chemical:

Fine powder may form explosive dust-air mixture if finely dispersed in air.

Fume and smoke may include toxic substances such as aromatic compounds.

Protective equipment and precautions for firefighters

Avoid inhalation of fume and smoke.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid breathing dust. Dust-proof masks should be worn when working.

6.2 Environmental precautions:

Do not flush into sewer or natural watercourse.

6.3 Methods for containment:

Keep in air-tight container.

6.4 Methods for cleaning up:

Sweep the spilled powder slowly.

Clean the remainder with wet cloth, wet paper, or vacuum cleaner.

Vacuum cleaner must be equipped with dust proof filter and must be explosion-proof.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid breathing dust.

Keep away from ignition sources, especially where dust concentration may become high.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry location away from direct sunlight.

SECTION 8 Exposure contols/personal protection

8.1 Control parameters:

	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
As toner mixture	15mg/m^3(Inhalable fraction) 5mg/m3(Resipable fraction)	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.
Carbon black	3.5mg/m^3	N.E.	3.5mg/m^3	N.E.
Silica	6mg/m^3	N.E.	10mg/m^3(Total dust) 3mg/m3(Resipable fraction)	N.E.

(N.E.= Not Established)

8.2 Engineering controls:

Use of local ventilation is recommended.

8.3 Personal protective equipment:

Eye/face protection:	Protective goggles is recommended if necessary.
Skin Protection:	Not required
Respiratory protection:	Dust-proof mask should be used when handling bulk.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Black powder
Odor:	Slight odor
pH:	Not applicable
Melting point:	App. 140°C (Flow temperature)
Boiling point:	No data
Flash point:	No data
Evaporation rate:	No data
Flammability:	Not flammable (according to GHS classification)
Explosive limits:	No data
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	1.1-1.3
Solubility:	Insoluble to water, partially soluble to toluene and xylene.
Partition coefficient:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	>200°C
Viscosity:	Not applicable
Explosive properties:	Can form explosive dust-air mixtures when finely dispersed in air
Oxidizing properties:	Not applicable

9.2 Other information:

Particle Size:	app. 8.0μm (D_{50})

SECTION 10 Stability and reactivity

10.1 Reactivity: None
10.2 Possibility of hazardous reactions: None
10.3 Chemical stability: Stable
10.4 Conditions to avoid: None
10.5 Incompatible materials: None
10.6 Hazardous decomposition products: No data

SECTION 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

Inhalation: LC_{50} ; inh-rat>1.45mg/L/4 hours*, not harmful.
(maximum achievable concentration)

Ingestion: LD_{50} > 2000mg/kg*, not harmful

Irritation:

Eye: Not classified as irritant* **

Skin: Not classified as irritant* **

Corrosivity: Not available

Sensitisation: Not classified as a sensitizer* **

Carcinogenicity: Carbon black, contained in this toner, is classified as “group 2B” (possibly carcinogenic to humans) by IARC. However, long-term inhalation test on rats using a toner preparation containing carbon black did not show any carcinogenic effects.

Mutagenicity: Ames test negative*

Reproductive toxicity: Not available

STOT –single exposure: Not available

STOT –RE: In study of rats exposed to a toner containing carbon black, mild degree of lung fibrosis was observed in groups exposed to high concentration(16mg/m^3), and mid-concentration(4mg/m^3), but no pulmonary change was reported in the group exposed to low concentration(1mg/m^3).
In normal conditions of use (in electro-photographic apparatus,) maximum concentration of toner released is significantly lower than 1mg/m^3, and will have no chronic effects to human health.
In cases where this product is used in bulk for purpose such as filling, cleaning, etc of the apparatus, exposure should be controlled with care according to Sections 7 and 8.

Aspiration hazards: Not available

**data from toner with similar composition.*

***according to GHS classifications*

SECTION 12 Ecological information

12.1 Ecotoxicity

Fish(*Oryzias latipes*): LC_{50}(96hr) > 100mg/L (WAF)*

Crustaceans(*Daphnia magna*): EC_{50}(48hr) > 100mg/L (WAF)*

Algae(*Pseudokirchneriella subcapitata)*: E_rL_{50}(0-72h)>100 mg/L, NOELR=100mg/L (WAF)*

12.2 Persistence and degradability

Not available

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects:

Not available

SECTION 13 Disposal consideration

Dispose according to local authority requirements.

DO NOT release to sewer or natural watercourse.

DO NOT put toner powder or container into fire.

SECTION 14 Transport information

Basic shipping description

UN number:	None
UN proper shipping name: None	
Transport hazard class(es):	None
Packing group:	None

Environmental hazards:

Not classified as environmentally hazardous under UN Model Regulations and marine pollutant under IMDG Code.

Additional information:

Handling such as exposure to water, rolling, falling, or giving shock to the container may result in breakage of the inner bag and result in scattering of the mixture.

Avoid direct sunlight and hot places. (See also: Section 7)

ADR / RID / ADN:	not regulated
IMDG Code:	not regulated
ICAO-TI / IATA-DGR:	not regulated

SECTION 15 Regulatory information

Federal Regulations

TSCA: All ingredients are on the inventory or exempt from listing.

SARA Title III Section 313:

None

State Regulations:

California Proposition 65:

"Caron black" included in this toner is listed, but only airborne, unbound particles of respirable size are subject to the regulation. Thus carbon black bound inside toner is not subject to the Proposition.

SECTION 16 Other information

Issued according to ANSI Z400.1/Z129.1-2010

Indication of changes:

Jan. 26, 2016: First issued

Abbreviations:

CAS:	Chemical Abstract Service
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ACGIH:	American Conference of Governmental Industrial Hygienists
TLV:	Threshold Limit Value
TWA:	Time weighted Average
STEL:	Short Term Exposure Limit
LC_{50}	Lethal Concentration to 50% of test population
LD_{50}	Lethal Dose to 50% of test population
D_{50}	volume-based median (50%) Diameter
IARC:	International Agency for Research on Cancer
STOT:	Specific Target Organ Toxicity
STOT RE	Specific Target Organ Toxicity –Repeated Exposure
WAF	Water Accommodated Fraction
EC_{50}	Effective Concentration to 50% of test population
NOEC	No Observed Effect Concentration
E_rL_{50}	Effective Loading rate that causes growth rate reduction to 50%
NOELR	No Observed Effect Loading Rate
E_bL_{50}	Effective Loading rate that causes 50% reduction in algal cell biomass
PBT	Persistent, Bioaccumulative, and Toxic
UN	United Nations
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail
ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG	International Maritime Dangerous Goods
IATA-DGR:	International Air Transport Association Dangerous Goods Regulations
ICAO-TI:	Technical Instructions for the Safe Transport of Dangerous Goods by Air
TSCA:	Toxic Substances Control Act
SNUR:	Significant New Use Rule
SARA:	Superfund Amendments and Reauthorization Act
ANSI:	American National Standard Institute

Although the information contained in this MSDS is prepared to be accurate to the best of our knowledge, please be aware that health and hazard assessment may not be enough and complete.

Since MSDS may be revised due to regulation changes or product modifications, please confirm if this is the latest version, especially if the revision date is outdated for two years.