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

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Weight %</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturated polyester resin</td>
<td>85-95</td>
<td>186397-54-6</td>
</tr>
<tr>
<td>Pigment</td>
<td>1-5</td>
<td>147-14-8</td>
</tr>
<tr>
<td>Silica, treated</td>
<td>1-5</td>
<td>67762-90-7</td>
</tr>
<tr>
<td>Wax</td>
<td>1-5</td>
<td>9003-07-0</td>
</tr>
</tbody>
</table>
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, CO₂, 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 controls/personal protection

8.1 Control parameters:

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>As toner mixture</td>
<td>15mg/m³ (Inhalable fraction)</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>5mg/m³ (Resipable fraction)</td>
<td></td>
</tr>
<tr>
<td>Carbon black</td>
<td>3.5mg/m³</td>
<td>N.E.</td>
</tr>
<tr>
<td>Silica</td>
<td>6mg/m³</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(N.E. = Not Established)

8.2 Engineering controls:
The 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 (D₀₀₀)
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:  LC50; inh-rat>1.45mg/L/4 hours*, not harmful.
                  (maximum achievable concentration)
      Ingestion:  LD50 > 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): LC50(96hr) > 100mg/L (WAF)*
   Crustaceans(Daphnia magna): EC50(48hr) > 100mg/L (WAF)*
   Algae(Pseudokirchneriella subcapitata): EL50(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
Revised:  Jan. 26, 2016
SDS No.: 01C-US001
LC<sub>50</sub>  Lethal Concentration to 50% of test population
LD<sub>50</sub>  Lethal Dose to 50% of test population
D<sub>50</sub>  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<sub>50</sub>  Effective Concentration to 50% of test population
NOEC  No Observed Effect Concentration
EL<sub>50</sub>  Effective Loading rate that causes growth rate reduction to 50%
NOELR  No Observed Effect Loading Rate
ED<sub>50</sub>  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.
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

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Weight %</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturated polyester resin</td>
<td>80-95</td>
<td>186397-54-6</td>
</tr>
<tr>
<td>Pigment</td>
<td>1-5</td>
<td>56396-10-2</td>
</tr>
<tr>
<td>Wax</td>
<td>1-5</td>
<td>9003-07-0</td>
</tr>
<tr>
<td>Silica</td>
<td>1-5</td>
<td>67762-90-7</td>
</tr>
</tbody>
</table>
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, CO₂, 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 controls/personal protection

8.1 Control parameters:

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>As toner mixture</td>
<td>15mg/m³(Inhalable fraction)</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>5mg/m³(Resipable fraction)</td>
<td></td>
</tr>
<tr>
<td>Carbon black</td>
<td>3.5mg/m³</td>
<td>N.E.</td>
</tr>
<tr>
<td>Silica</td>
<td>6mg/m³</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

(TWA = Time Weighted Average, STEL = Short Term Exposure Limit, 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

9.2 Other information:
- Particle Size: app. 8.0µm (D₅₀)
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(\textit{Oryzias latipes}): \( LC_{50}(96hr) > 100mg/L \) (WAF)*
Crustaceans(\textit{Daphnia magna}): \( EC_{50}(48hr) > 100mg/L \) (WAF)*
Algae(\textit{Pseudokirchneriella subcapitata}): \( E_{L50}(0-72h)>100 \) 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
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Indication of changes:
Jan. 26, 2016: First issued

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TWA Time weighted Average
STEL Short Term Exposure Limit

Revised: Jan. 26, 2016
SDS No.: 01M-US001
LC₅₀  Lethal Concentration to 50% of test population
LD₅₀  Lethal Dose to 50% of test population
D₅₀  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
EC₅₀ Effective Concentration to 50% of test population
NOEC No Observed Effect Concentration
EL₅₀ Effective Loading rate that causes growth rate reduction to 50%
NOELR No Observed Effect Loading Rate
EL₅₀ 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
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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

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Weight %</th>
<th>CAS No.</th>
</tr>
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<tbody>
<tr>
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</tr>
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<td>1-5</td>
<td>6358-31-2</td>
</tr>
<tr>
<td>Wax</td>
<td>1-5</td>
<td>9003-07-0</td>
</tr>
<tr>
<td>Silica</td>
<td>1-5</td>
<td>67762-90-7</td>
</tr>
</tbody>
</table>
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, CO2, 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:

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>As toner mixture</td>
<td>15mg/m³</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>(Inhalable fraction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Respirable fraction)</td>
<td></td>
</tr>
<tr>
<td>Carbon black</td>
<td>3.5mg/m³</td>
<td>N.E.</td>
</tr>
<tr>
<td>Silica</td>
<td>6mg/m³</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>(Total dust)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

(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 (D₅₀)
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.
- 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_{L50}(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.

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
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>LC&lt;sub&gt;50&lt;/sub&gt;</td>
<td>Lethal Concentration to 50% of test population</td>
</tr>
<tr>
<td>LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>Lethal Dose to 50% of test population</td>
</tr>
<tr>
<td>D&lt;sub&gt;50&lt;/sub&gt;</td>
<td>volume-based median (50%) Diameter</td>
</tr>
<tr>
<td>IARC:</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>STOT:</td>
<td>Specific Target Organ Toxicity</td>
</tr>
<tr>
<td>STOT RE</td>
<td>Specific Target Organ Toxicity –Repeated Exposure</td>
</tr>
<tr>
<td>WAF</td>
<td>Water Accommodated Fraction</td>
</tr>
<tr>
<td>EC&lt;sub&gt;50&lt;/sub&gt;</td>
<td>Effective Concentration to 50% of test population</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>EL&lt;sub&gt;50&lt;/sub&gt;</td>
<td>Effective Loading rate that causes growth rate reduction to 50%</td>
</tr>
<tr>
<td>NOELR</td>
<td>No Observed Effect Loading Rate</td>
</tr>
<tr>
<td>E&lt;sub&gt;0&lt;/sub&gt;L&lt;sub&gt;50&lt;/sub&gt;</td>
<td>Effective Loading rate that causes 50% reduction in algal cell biomass</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative, and Toxic</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>ADR:</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>RID:</td>
<td>Regulations concerning the International Carriage of Dangerous Goods by Rail</td>
</tr>
<tr>
<td>ADN:</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>IATA-DGR:</td>
<td>International Air Transport Association Dangerous Goods Regulations</td>
</tr>
<tr>
<td>ICAO-TI:</td>
<td>Technical Instructions for the Safe Transport of Dangerous Goods by Air</td>
</tr>
<tr>
<td>TSCA:</td>
<td>Toxic Substances Control Act</td>
</tr>
<tr>
<td>SNUR:</td>
<td>Significant New Use Rule</td>
</tr>
<tr>
<td>SARA:</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>ANSI:</td>
<td>American National Standard Institute</td>
</tr>
</tbody>
</table>

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.
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, Shimomaru ko 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

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

* Zinc,(bis[3,5-di(iso-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, CO2, 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:

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>As toner mixture</td>
<td></td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>15mg/m(^3) (Inhalable fraction)</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>5mg/m(^3) (Respirable fraction)</td>
<td>N.E.</td>
</tr>
<tr>
<td>Carbon black</td>
<td>3.5mg/m(^3)</td>
<td>N.E.</td>
</tr>
<tr>
<td>Silica</td>
<td>6mg/m(^3)</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N.E.</td>
</tr>
</tbody>
</table>

(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\(^\circ\)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\(^\circ\)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. 8.0\(\mu\)m (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: LC₅₀ ; inh-rat>1.45mg/L/4 hours*, not harmful.
  (maximum achievable concentration)
- Ingestion: LD₅₀ > 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/m³), and mid-concentration(4mg/m³), but no pulmonary change was reported in the group exposed to low concentration(1mg/m³).

In normal conditions of use (in electro-photographic apparatus,) maximum concentration of toner released is significantly lower than 1mg/m³, 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): LC₅₀ (96hr) > 100mg/L (WAF)*
- Crustaceans (Daphnia magna): EC₅₀ (48hr) > 100mg/L (WAF)*
- Algae (Pseudokirchneriella subcapitata): ErL₅₀ (0-72h) > 100mg/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
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SECTION 15 Regulatory information

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

Revised: Jan. 26, 2016
SDS No.: 01B-US001
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:
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- D₅₀: volume-based median (50%) Diameter
- IARC: International Agency for Research on Cancer
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