

# Material Safety Data Sheet

8008

# MATERIAL SAFETY DATA SHEET

DATE PREPARED : Oct. 21, 2002

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## 1. PRODUCT & COMPANY IDENTIFICATION

[PRODUCT NAME]

Organic Photoconductor for SL-5

[COMPANY IDENTIFICATION]

SUPLIER

Name : Hitachi Printing Solutions,Ltd.

Address : 1-1,Higashitaga-cho 1-chome,Hitachi-City,Ibaraki-Pref. 316-8502 Japan

Telephone : 81-294-36-8810

Facsimile : 81-294-36-8979

EMERGENCY CONTACT

Please call the twlephone number listed above.

MANUFACTURER

Name : Hitachi Printing Solutions,Ltd.

Address : 1-1,Higashitaga-cho 1-chome,Hitachi-City,Ibaraki-Pref. 316-8502 Japan

Telephone : 81-294-36-8810

Facsimile : 81-294-36-8979

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

[COMPOSITION/INFORMATION]

| <u>Ingredients</u>        | <u>CAS No.</u> | <u>Proportion</u> |
|---------------------------|----------------|-------------------|
| Aluminium                 |                | < 1%              |
| Binder resin              |                | <15%              |
| Photosensitive material   |                | < 5%              |
| Polyethylen Terephthalate |                | >79%              |

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## 3. HAZARDS IDENTIFICATION

[EMERGENCY OVERVIEW]

Green, odorless and solid film. None hazardous product.

[POTENTIAL HEALTH EFFECTS]

Based on animal testing, this product is presumed to be no health effects.

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## 4. FIRST-AID MEASURES

- EYE CONTACT No eye contact in normal use. If exposed to the dust of photoconductive layer, flush eyes with water. Get medical attention, if feels irritation.
  - SKIN CONTACT None treatment is required. If exposed to much of the dust of photoconductive layer, wash out with water.
  - INHALATION No inhalation in normal use. If exposed to the dust of photoconductive layer, get medical attention if cough or other symptoms develop.
  - INGESTION No ingestion in normal use. If swallowed the dust of photoconductive layer, induce vomiting as much as possible. Get medical attention, if feels something bad.
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## 5. FIRE-FIGHTING MEASURES

- EXTINGUISHING MEDIA : CO<sub>2</sub>, Dry chemical, Foam or Water
- SPECIAL FIRE-FIGHTING PROCEDURES : None

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## 6. ACCIDENTAL RELEASE MEASURES

- PERSONAL PRECAUTIONS : None required under normal use.
- ENVIRONMENTAL PRECAUTIONS : None required under normal use.
- METHODS FOR CLEANING UP : Collect. No special precautions required in collection.

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## 7. HANDLING & STORAGE

- HANDLING : No special precaution. Do not touch the photoconductive layer directly, expose to organic solvent vapor or sunlight to prevent degradation.
- STORAGE : Store in normal temperature, normal humidity and dark place. Avoid dew condensation, organic solvent vapor.

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## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

- OCCUPATIONAL EXPOSURE LIMIT : ACGIH Not established.  
OSHA Not established.
- ENGINEERING MEASURES : Not required.
- PERSONAL PROTECTIVE EQUIPMENT :
  - RESPIRATORY PROTECTION ; None required.
  - EYE PROTECTION ; Use safety glass.
  - SKIN PROTECTION ; No precautions.

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## 9. PHYSICAL & CHEMICAL PROPERTIES

- APPEARANCE AND ODOR : Green, odorless and solid film.
- DENSITY : 1.4
- BOILING POINT : n. a.
- MELTING POINT : Not available
- VAPOUR PRESSURE : n. a.
- SOLUBILITY IN WATER : Insoluble
- SOLUBILITY IN OTHER SOLVENT : Photoconductive layer is soluble in organic solvent like Tetrahydrofuran.
- FLASH POINT : n. a.
- AUTOIGNITION TEMPERATURE : n. a.
- FLAMMABLE LIMITS : n. a.

\* n. a. :not applicable

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#### 10. STABILITY & REACTIVITY

- STABILITY & REACTIVITY : Stable
  
- MATERIALS TO AVOID : Oxidizing material
  
- HAZARDOUS DECOMPOSITION PRODUCTS : None

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#### 11. TOXICOLOGICAL INFORMATION

- ACUTE TOXICITY : oral (rat) LD<sub>50</sub> >2,000mg/kg<sup>1)</sup> (Photoconductive layer)  
skin (rabbit) LD<sub>50</sub> not available
- SKIN IRRITATION : No skin irritation potential to the rabbit skin<sup>2)</sup>  
(Photoconductive layer)
- EYE IRRITATION : Reversible and minimally eye irritation potential to the eyes  
of rabbits. <sup>3)</sup> (Photoconductive layer)
- SENSITIZING : Not available.
- CHRONIC TOXICITY : Not available.
- MUTAGENICITY : Negative in the Ames test. <sup>4)</sup> (Photoconductive layer)
- CARCINOGENICITY : IARC ; — , ACGIH ; — , NTP ; Not available.
- REPRODUCTIVE TOXICITY : Not available.

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#### 12. ECOLOGICAL INFORMATION

No data available.

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#### 13. DISPOSAL CONSIDERATION

Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

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#### 14. TRANSPORT INFORMATION

UN Haz. Class : None allocated.

UN Number : None

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#### 15. REGULATORY INFORMATION

This product do not fall in the category of the regulations and orders of section 6 and 7 of TSCA (Toxic Substance Control Act).

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#### 16. OTHER INFORMATION

[MSDS STATUS] No specific notes.

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# MATERIAL SAFETY DATA SHEET

[1. PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : TUFTONE HOC  
 SUPPLIER : Hitachi Printing Solutions, Ltd.  
 ADDRESS : 1-1, Higashitaga-cho 1-chome, Hitachi-shi Ibaraki-ken 316-8502 Japan  
 DIVISION : CLP Design Dept.  
 TELEPHONE NUMBER : 81-294-36-8747  
 FAX NUMBER : 81-294-36-8979  
 EMERGENCY : 81-294-36-8747  
 TELEPHONE NUMBER

[2. COMPOSITION/INFORMATION ON INGREDIENTS]

SUBSTANCE OR PREPARATION : Preparation

INGREDIENTS AND CONCENTRATION RANGE

| Ingredients | Concentration Range(%) | CAS RN |
|-------------|------------------------|--------|
| Cyan toner  | Confidential           |        |

INGREDIENTS CONTRIBUTING TO : None  
 THE HAZARD(JAPAN)

[3. HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS :  
 ADVERSE HUMAN HEALTH EFFECTS : To the best of our investigation, no special hazards have to be mentioned.  
 ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse effect in the environment available.  
 PHYSICAL AND CHEMICAL HAZARDS : This material is not dangerous in case of usual handling. May cause risk of dust explosion.  
 CLASS NAME FOR MSDS IN JAPAN : Not applicable

[4. FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air. If necessary seek medical attention.  
 IN CASE OF SKIN CONTACT : Wash material off the skin with plenty of water and soap. If necessary seek medical attention.  
 IN CASE OF EYE CONTACT : Immediately hold eyelids open and flush with a stream of water for at least 15 minutes. If necessary seek medical attention.  
 IN CASE OF INGESTION : Seek medical attention. Never give anything by mouth to an unconscious person. If possible, rinse out mouth and give one or two glasses of water or milk to drink.

[5. FIRE-FIGHTING MEASURES]

EXTINGUISHING MEDIA : Water spray, powder

- NOT SUITABLE EXTINGUISHING MEDIA** : No information available
- SPECIFIC HAZARDS** : May produce irritating or toxic gases in a fire.
- SPECIFIC METHODS** : Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible.
- PROTECTION OF FIREFIGHTERS** : Use goggles in combination with dust mask, and another protections as appropriate to situation.

**[6. ACCIDENTAL RELEASE MEASURES]**

- PERSONAL PRECAUTIONS** : Use mask, goggles and protective gloves.  
Large spills : Remove person to safety.  
Ensure adequate ventilation.  
Treat from upwind position.
- ENVIRONMENTAL PRECAUTIONS** : Do not discharge into the drains, surface waters or ground water directly.
- METHODS FOR CLEANING UP** : Sweep or vacuum spills.  
Prevent dispersion of dust.
- PREVENTION OF SECONDARY HAZARDS** : No information available

**[7. HANDLING AND STORAGE]**

- HANDLING**
- TECHNICAL MEASURES** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- PRECAUTIONS** : Avoid inhalation of fine dust .
- SAFE HANDLING ADVICE** : Handle in well-ventilated areas.  
Use safety glasses and protective gloves as appropriate to situation.  
Wash hands and face and gargle after handling.
- STORAGE**
- STORAGE CONDITIONS** : Keep container tightly closed.  
Protect from sun. Store in a well-ventilated room (under 40 C).
- PACKAGING MATERIALS** : No information available

**[8. EXPOSURE CONTROLS/PERSONAL PROTECTION]**

- ENGINEERING MEASURES** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use an adequate ventilation.
- LIMIT VALUES** :
- ACGIH(TLV)** : Not established
- OSHA(PEL)** : Not established
- PERSONAL PROTECTIVE EQUIPMENT**
- RESPIRATORY PROTECTION** : Use dust mask, as appropriate to situation.
- HAND PROTECTION** : Rubber gloves
- EYE PROTECTION** : Safety glasses with side shield(Safety goggles or Face shield)

SKIN AND BODY PROTECTION : Full-body suit  
HYGIENE MEASURES : No information available

**[9. PHYSICAL AND CHEMICAL PROPERTIES]****PHYSICAL STATES**

FORM : Pulverizing powder  
COLOUR : Blue  
ODOUR : Odourless  
pH : Not applicable

**SPECIFIC TEMPERATURES/TEMPERATURE RANGES AT WHICH CHANGES IN PHYSICAL STATE OCCUR**

BOILING POINT : No data available  
MELTING POINT : No data available  
DECOMPOSITION TEMPERATURE : No data available  
FLASH POINT : Not applicable  
AUTOIGNITION TEMPERATURE : No data available

**EXPLOSION PROPERTIES**

EXPLOSION : UPPER LIMIT : No data available LOWER LIMIT : No data available  
VAPOUR PRESSURE : No data available  
VAPOUR DENSITY : No data available  
DENSITY : 1.2 g/mL ( 20 °C ) ( 68 °F )  
SOLUBILITY  
WATER SOLUBILITY : Insoluble  
SOLVENT SOLUBILITY : Partially soluble in toluene, chloroform and tetrahydrofurane.  
OCTANOL/WATER PARTITION COEFFICIENT : No data available  
OTHER DATA : No data available

**[10. STABILITY AND REACTIVITY]**

STABILITY : Stable in general.  
HAZARDOUS REACTIONS : Stable.  
CONDITIONS TO AVOID : No information available  
MATERIALS TO AVOID : No information available  
HAZARDOUS DECOMPOSITION PRODUCTS : No information available  
OTHERS : No information available

**[11. TOXICOLOGICAL INFORMATION]**

ACUTE TOXICITY : LD50 : > 2500 mg/kg  
5.20 mg/L : No death

**LOCAL EFFECTS**

- CORROSIVITY : No information available
- SKIN IRRITATION : undiluted : P.I.I = 0, Non-irritant
- EYE IRRITATION : undiluted, Unwashed eyes : MAS = 1.3, Practically non-irritating
- SENSITIZATION : Negative
- CHRONIC TOXICITY/LONG TERM TOXICITY : No information available
- CARCINOGENICITY : No information available
- IARC : Group3,(2002 year edition)  
Silica
- NTP : Not established
- OSHA : Not established
- MUTAGENICITY : Negative
- TERATOGENICITY : No information available
- REPRODUCTION TOXICITY : No information available
- OTHER DATA : No information available

[12.ECOLOGICAL INFORMATION]

- MOBILITY : No information available
- PERSISTENCE/  
DEGRADABILITY : No information available
- BIOACCUMULATION : No information available
- ECOTOXICITY
- AQUATIC TOXICITY : No information available
- OTHER DATA : No information available

[13.DISPOSAL CONSIDERATIONS]

Review "HANDLING AND STORAGE (Section 7)".  
Dispose of waste(after vacuuming) in accordance with local,state, and federal regulations.

Dispose of waste in accordance with local,state and federal regulations.

[14.TRANSPORT INFORMATION]

Follow all regulations in your country or region

- UN CLASS/UN NUMBER : Not applicable
- PRECAUTIONS : Review "ACCIDENTAL RELEASE MEASURES (Section 6)".  
Review "HANDLING AND STORAGE (Section 7)".  
Ensure containers without breakage or leakage.  
Ensure containers tightly fixed.  
Follow all regulations in your country or region.

[15.REGULATORY INFORMATION]

Follow all regulations in your country or region

- INVENTORIES : ENCS(Japan) Yes  
TSCA(USA) Yes



|                    |            |
|--------------------|------------|
| EINECS(EU)         | No(ELINCS) |
| AICS(Australia)    | Yes        |
| DSL(Canada)        | No(NDSL)   |
| ECL(Korea)         | No         |
| PICCS(Philippines) | No         |

Hitachi Printing Solutions, Ltd. is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

[16. OTHER INFORMATION]  
REFERENCE

- : -Safety data sheet for chemical products - Part 1: Content and order of sections(ISO 11014-1)
- International Chemical Safety Cards(ICSC) (Compiler's Guide)(1994)

To the best of the manufacturer's knowledge, the information contained herein is accurate. However, neither the manufacturer, nor any of its affiliates, make any representations or warranties (expressed or implied), nor assumes any liability (including liability for any direct, incidental, consequential, or other damages) with respect to the accuracy or completeness of the information contained herein. Such information may be (without limitation) invalid if the specified material is used in combination with another, in a particular process, or under unusual conditions. Determination of suitability of any material for any given purpose is the sole responsibility of the user who assumes all risk and responsibility therefore. All materials may present unknown hazards and should be used with appropriate caution. The manufacturer cannot and does not guarantee that the hazards described herein are the only ones that exist.

## MATERIAL SAFETY DATA SHEET

## [1. PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : TUFTONE HOK  
 SUPPLIER : Hitachi Printing Solutions, Ltd.  
 ADDRESS : 1-1, Higashitaga-cho 1-chome, Hitachi-shi Ibaraki-ken 316-8502 Japan  
 DIVISION : CLP Design Dept.  
 TELEPHONE NUMBER : 81-294-36-8747  
 FAX NUMBER : 81-294-36-8979  
 EMERGENCY : 81-294-36-8747  
 TELEPHONE NUMBER

## [2. COMPOSITION/INFORMATION ON INGREDIENTS]

SUBSTANCE OR PREPARATION : Preparation

## INGREDIENTS AND CONCENTRATION RANGE

| Ingredients | Concentration Range(%) | CAS RN |
|-------------|------------------------|--------|
| Black toner | Confidential           |        |

INGREDIENTS CONTRIBUTING TO : None  
 THE HAZARD(JAPAN)

## [3. HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS :  
 ADVERSE HUMAN HEALTH EFFECTS : To the best of our investigation, no special hazards have to be mentioned.  
 ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse effect in the environment available.  
 PHYSICAL AND CHEMICAL HAZARDS : This material is not dangerous in case of usual handling. May cause risk of dust explosion.  
 CLASS NAME FOR MSDS IN JAPAN : Not applicable

## [4. FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air. If necessary seek medical attention.  
 IN CASE OF SKIN CONTACT : Wash material off the skin with plenty of water and soap. If necessary seek medical attention.  
 IN CASE OF EYE CONTACT : Immediately hold eyelids open and flush with a stream of water for at least 15 minutes. If necessary seek medical attention.  
 IN CASE OF INGESTION : Seek medical attention. Never give anything by mouth to an unconscious person. If possible, rinse out mouth and give one or two glasses of water or milk to drink.

## [5. FIRE-FIGHTING MEASURES]

EXTINGUISHING MEDIA : Water spray, powder

- NOT SUITABLE EXTINGUISHING MEDIA** : No information available
- SPECIFIC HAZARDS** : May produce irritating or toxic gases in a fire.
- SPECIFIC METHODS** : Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible.
- PROTECTION OF FIREFIGHTERS** : Use goggles in combination with dust mask, and another protections as appropriate to situation.

**[6. ACCIDENTAL RELEASE MEASURES]**

- PERSONAL PRECAUTIONS** : Use mask, goggles and protective gloves.  
Large spills : Remove person to safety.  
Ensure adequate ventilation.  
Treat from upwind position.
- ENVIRONMENTAL PRECAUTIONS** : Do not discharge into the drains, surface waters or ground water directly.
- METHODS FOR CLEANING UP** : Sweep or vacuum spills.  
Prevent dispersion of dust.
- PREVENTION OF SECONDARY HAZARDS** : No information available

**[7. HANDLING AND STORAGE]****HANDLING**

- TECHNICAL MEASURES** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- PRECAUTIONS** : Avoid inhalation of fine dust .
- SAFE HANDLING ADVICE** : Handle in well-ventilated areas.  
Use safety glasses and protective gloves as appropriate to situation.  
Wash hands and face and gargle after handling.

**STORAGE**

- STORAGE CONDITIONS** : Keep container tightly closed.  
Protect from sun. Store in a well-ventilated room (under 40 C).
- PACKAGING MATERIALS** : No information available

**[8. EXPOSURE CONTROLS/PERSONAL PROTECTION]**

- ENGINEERING MEASURES** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use an adequate ventilation.

**LIMIT VALUES**

- ACGIH(TLV)** : TWA 3.5mg/m3,(2002 year edition)  
Carbon black
- OSHA(PEL)** : PEL 3.5mg/m3,(2002 year edition)  
Carbon black

**PERSONAL PROTECTIVE EQUIPMENT**

- RESPIRATORY PROTECTION** : Use dust mask, as appropriate to situation.
- HAND PROTECTION** : Rubber gloves
- EYE PROTECTION** : Safety glasses with side shield(Safety goggles or Face shield)

SKIN AND BODY PROTECTION : Full-body suit  
HYGIENE MEASURES : No information available

**[9. PHYSICAL AND CHEMICAL PROPERTIES]****PHYSICAL STATES**

FORM : Pulverizing powder  
COLOUR : Black  
ODOUR : Odourless  
pH : Not applicable

**SPECIFIC TEMPERATURES/TEMPERATURE RANGES AT WHICH CHANGES IN PHYSICAL STATE OCCUR**

BOILING POINT : No data available  
MELTING POINT : No data available  
DECOMPOSITION TEMPERATURE : No data available  
FLASH POINT : Not applicable  
AUTOIGNITION TEMPERATURE : No data available

**EXPLOSION PROPERTIES**

EXPLOSION : UPPER LIMIT : No data available LOWER LIMIT : No data available  
VAPOUR PRESSURE : No data available  
VAPOUR DENSITY : No data available  
DENSITY : 1.2 g/mL ( 20 °C ) ( 68 °F )  
SOLUBILITY  
WATER SOLUBILITY : Insoluble  
SOLVENT SOLUBILITY : Partially soluble in toluene, chloroform and tetrahydrofurane.  
OCTANOL/WATER PARTITION COEFFICIENT : No data available  
OTHER DATA : No data available

**[10. STABILITY AND REACTIVITY]**

STABILITY : Stable in general.  
HAZARDOUS REACTIONS : Stable.  
CONDITIONS TO AVOID : No information available  
MATERIALS TO AVOID : No information available  
HAZARDOUS DECOMPOSITION PRODUCTS : No information available  
OTHERS : No information available

**[11. TOXICOLOGICAL INFORMATION]**

ACUTE TOXICITY : LD50 : > 2500 mg/kg  
5.05 mg/L : No death

## LOCAL EFFECTS

|                                     |   |
|-------------------------------------|---|
| CORROSIVITY                         | : No information available  |
| SKIN IRRITATION                     | : undiluted : P.I.I = 0, Non-irritant   |
| EYE IRRITATION                      | : undiluted, Unwashed eyes : MAS = 1.3, Practically non-irritating                    |
| SENSITIZATION                       | : Negative  |
| CHRONIC TOXICITY/LONG TERM TOXICITY | : No information available  |
| CARCINOGENICITY                     | : No information available  |
| IARC                                | : Group2B,(2002 year edition)<br>Carbon black<br>Group3,(2002 year edition)<br>Silica |
| NTP                                 | : Not established   |
| OSHA                                | : Not established   |
| MUTAGENICITY                        | : Negative  |
| TERATOGENICITY                      | : No information available  |
| REPRODUCTION TOXICITY               | : No information available  |
| OTHER DATA                          | : No information available  |

## [12.ECOLOGICAL INFORMATION]

|                               |                            |
|-------------------------------|----------------------------|
| MOBILITY                      | : No information available |
| PERSISTENCE/<br>DEGRADABILITY | : No information available |
| BIOACCUMULATION               | : No information available |
| ECOTOXICITY                   |                            |
| AQUATIC TOXICITY              | : No information available |
| OTHER DATA                    | : No information available |

## [13.DISPOSAL CONSIDERATIONS]

Review "HANDLING AND STORAGE (Section 7)".  
Dispose of waste(after vacuuming) in accordance with local,state, and federal regulations.

Dispose of waste in accordance with local,state and federal regulations.

## [14.TRANSPORT INFORMATION]

Follow all regulations in your country or region

|                    |  |
|--------------------|--|
| UN CLASS/UN NUMBER | : Not applicable   |
| PRECAUTIONS        | : Review "ACCIDENTAL RELEASE MEASURES (Section 6)".<br>Review "HANDLING AND STORAGE (Section 7)".<br>Ensure containers without breakage or leakage.<br>Ensure containers tightly fixed.<br>Follow all regulations in your country or region. |

## [15.REGULATORY INFORMATION]

Follow all regulations in your country or region

|             |   |                    |            |
|-------------|---|--------------------|------------|
| INVENTORIES | : | ENCS(Japan)        | Yes        |
|             |   | TSCA(USA)          | Yes        |
|             |   | EINECS(EU)         | No(ELINCS) |
|             |   | AICS(Australia)    | Yes        |
|             |   | DSL(Canada)        | No(NDSL)   |
|             |   | ECL(Korea)         | No         |
|             |   | PICCS(Philippines) | No         |

Hitachi Printing Solutions, Ltd. is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filed by your responsibility.

**[16. OTHER INFORMATION]**

## REFERENCE

- Safety data sheet for chemical products - Part 1: Content and order of sections(ISO 11014-1)
- International Chemical Safety Cards(ICSC) (Compiler's Guide)(1994)

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[2. COMPOSITION/INFORMATION ON INGREDIENTS]

SUBSTANCE OR PREPARATION : Preparation

INGREDIENTS AND CONCENTRATION RANGE

| Ingredients   | Concentration Range(%) | CAS RN |
|---------------|------------------------|--------|
| Magenta toner | Confidential           |        |

INGREDIENTS CONTRIBUTING TO : None  
 THE HAZARD(JAPAN)

[3. HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS :  
 ADVERSE HUMAN HEALTH EFFECTS : To the best of our investigation, no special hazards have to be mentioned.  
 ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse effect in the environment available.  
 PHYSICAL AND CHEMICAL HAZARDS : This material is not dangerous in case of usual handling. May cause risk of dust explosion.  
 CLASS NAME FOR MSDS IN JAPAN : Not applicable

[4. FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air. If necessary seek medical attention.  
 IN CASE OF SKIN CONTACT : Wash material off the skin with plenty of water and soap. If necessary seek medical attention.  
 IN CASE OF EYE CONTACT : Immediately hold eyelids open and flush with a stream of water for at least 15 minutes. If necessary seek medical attention.  
 IN CASE OF INGESTION : Seek medical attention. Never give anything by mouth to an unconscious person. If possible, rinse out mouth and give one or two glasses of water or milk to drink.

[5. FIRE-FIGHTING MEASURES]

EXTINGUISHING MEDIA : Water spray, powder

- NOT SUITABLE EXTINGUISHING MEDIA : No information available
- SPECIFIC HAZARDS : May produce irritating or toxic gases in a fire.
- SPECIFIC METHODS : Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible.
- PROTECTION OF FIREFIGHTERS : Use goggles in combination with dust mask, and another protections as appropriate to situation.

[6. ACCIDENTAL RELEASE MEASURES]

- PERSONAL PRECAUTIONS : Use mask, goggles and protective gloves.  
Large spills : Remove person to safety.  
Ensure adequate ventilation.  
Treat from upwind position.
- ENVIRONMENTAL PRECAUTIONS : Do not discharge into the drains, surface waters or ground water directly.
- METHODS FOR CLEANING UP : Sweep or vacuum spills.  
Prevent dispersion of dust.
- PREVENTION OF SECONDARY HAZARDS : No information available

[7. HANDLING AND STORAGE]

HANDLING

- TECHNICAL MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- PRECAUTIONS : Avoid inhalation of fine dust .
- SAFE HANDLING ADVICE : Handle in well-ventilated areas.  
Use safety glasses and protective gloves as appropriate to situation.  
Wash hands and face and gargle after handling.

STORAGE

- STORAGE CONDITIONS : Keep container tightly closed.  
Protect from sun. Store in a well-ventilated room (under 40 C).
- PACKAGING MATERIALS : No information available

[8. EXPOSURE CONTROLS/PERSONAL PROTECTION]

- ENGINEERING MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use an adequate ventilation.

LIMIT VALUES :

- ACGIH(TLV) : Not established
- OSHA(PEL) : Not established

PERSONAL PROTECTIVE EQUIPMENT

- RESPIRATORY PROTECTION : Use dust mask, as appropriate to situation.
- HAND PROTECTION : Rubber gloves
- EYE PROTECTION : Safety glasses with side shield(Safety goggles or Face shield)



SKIN AND BODY PROTECTION : Full-body suit  
HYGIENE MEASURES : No information available

**[9. PHYSICAL AND CHEMICAL PROPERTIES]****PHYSICAL STATES**

FORM : Pulverizing powder  
COLOUR : Red  
ODOUR : Odourless  
pH : Not applicable

**SPECIFIC TEMPERATURES/TEMPERATURE RANGES AT WHICH CHANGES IN PHYSICAL STATE OCCUR**

BOILING POINT : No data available  
MELTING POINT : No data available  
DECOMPOSITION TEMPERATURE : No data available  
FLASH POINT : Not applicable  
AUTOIGNITION TEMPERATURE : No data available

**EXPLOSION PROPERTIES**

EXPLOSION : UPPER LIMIT : No data available LOWER LIMIT : No data available  
VAPOUR PRESSURE : No data available  
VAPOUR DENSITY : No data available  
DENSITY : 1.2 g/mL ( 20 °C ) ( 68 °F)

**SOLUBILITY**

WATER SOLUBILITY : Insoluble  
SOLVENT SOLUBILITY : Partially soluble in toluene, chloroform and tetrahydrofuran.  
OCTANOL/WATER PARTITION COEFFICIENT : No data available  
OTHER DATA : No data available

**[10. STABILITY AND REACTIVITY]**

STABILITY : Stable in general.  
HAZARDOUS REACTIONS : Stable.  
CONDITIONS TO AVOID : No information available  
MATERIALS TO AVOID : No information available  
HAZARDOUS DECOMPOSITION PRODUCTS : No information available  
OTHERS : No information available

**[11. TOXICOLOGICAL INFORMATION]**

ACUTE TOXICITY : LD50 : > 2500 mg/kg  
5.68 mg/L : No death

**LOCAL EFFECTS**

- CORROSIVITY : No information available
- SKIN IRRITATION : undiluted : P.I.I = 0, Non-irritant
- EYE IRRITATION : undiluted, Unwashed eyes : MAS = 1.3, Practically non-irritating
- SENSITIZATION : Negative
- CHRONIC TOXICITY/LONG TERM TOXICITY : No information available
- CARCINOGENICITY : No information available
- IARC : Group3,(2002 year edition)  
Silica
- NTP : Not established
- OSHA : Not established
- MUTAGENICITY : Negative
- TERATOGENICITY : No information available
- REPRODUCTION TOXICITY : No information available
- OTHER DATA : No information available

**[12.ECOLOGICAL INFORMATION]**

- MOBILITY : No information available
- PERSISTENCE/DEGRADABILITY : No information available
- BIOACCUMULATION : No information available
- ECOTOXICITY
- AQUATIC TOXICITY : No information available
- OTHER DATA : No information available

**[13.DISPOSAL CONSIDERATIONS]**

Review "HANDLING AND STORAGE (Section 7)".  
Dispose of waste(after vacuuming) in accordance with local,state, and federal regulations.

Dispose of waste in accordance with local,state and federal regulations.

**[14.TRANSPORT INFORMATION]**

Follow all regulations in your country or region

- UN CLASS/UN NUMBER : Not applicable
- PRECAUTIONS : Review "ACCIDENTAL RELEASE MEASURES (Section 6)".  
Review "HANDLING AND STORAGE (Section 7)".  
Ensure containers without breakage or leakage.  
Ensure containers tightly fixed.  
Follow all regulations in your country or region.

**[15.REGULATORY INFORMATION]**

Follow all regulations in your country or region

- INVENTORIES : ENCS(Japan) Yes  
TSCA(USA) Yes

|                    |            |
|--------------------|------------|
| EINECS(EU)         | No(ELINCS) |
| AICS(Australia)    | Yes        |
| DSL(Canada)        | No(NDSL)   |
| ECL(Korea)         | No         |
| PICCS(Philippines) | No         |

Hitachi Printing Solutions, Ltd. Is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

**[16.OTHER INFORMATION]****REFERENCE**

- : -Safety data sheet for chemical products - Part 1: Content and order of sections(ISO 11014-1)
- International Chemical Safety Cards(ICSC) (Compiler's Guide)(1994)

To the best of the manufacturer's knowledge, the information contained herein is accurate. However, neither the manufacturer, nor any of its affiliates, make any representations or warranties (expressed or implied), nor assumes any liability (including liability for any direct, incidental, consequential, or other damages) with respect to the accuracy or completeness of the information contained herein. Such information may be (without limitation) invalid if the specified material is used in combination with another, in a particular process, or under unusual conditions. Determination of suitability of any material for any given purpose is the sole responsibility of the user who assumes all risk and responsibility therefore. All materials may present unknown hazards and should be used with appropriate caution. The manufacturer cannot and does not guarantee that the hazards described herein are the only ones that exist.

## MATERIAL SAFETY DATA SHEET

## [1. PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : TUFTONE HOY  
 SUPPLIER : Hitachi Printing Solutions, Ltd.  
 ADDRESS : 1-1, Higashitaga-cho 1-chome, Hitachi-shi Ibaraki-ken 316-8502 Japan  
 DIVISION : CLP Design Dept.  
 TELEPHONE NUMBER : 81-294-36-8747  
 FAX NUMBER : 81-294-36-8979  
 EMERGENCY : 81-294-36-8747  
 TELEPHONE NUMBER

## [2. COMPOSITION/INFORMATION ON INGREDIENTS]

SUBSTANCE OR PREPARATION : Preparation

## INGREDIENTS AND CONCENTRATION RANGE

| Ingredients  | Concentration Range(%) | CAS RN |
|--------------|------------------------|--------|
| Yellow toner | Confidential           |        |

INGREDIENTS CONTRIBUTING TO : None  
 THE HAZARD(JAPAN)

## [3. HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS :  
 ADVERSE HUMAN HEALTH EFFECTS : To the best of our investigation, no special hazards have to be mentioned.  
 ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse effect in the environment available.  
 PHYSICAL AND CHEMICAL HAZARDS : This material is not dangerous in case of usual handling. May cause risk of dust explosion.  
 CLASS NAME FOR MSDS IN JAPAN : Not applicable

## [4. FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air. If necessary seek medical attention.  
 IN CASE OF SKIN CONTACT : Wash material off the skin with plenty of water and soap. If necessary seek medical attention.  
 IN CASE OF EYE CONTACT : Immediately hold eyelids open and flush with a stream of water for at least 15 minutes. If necessary seek medical attention.  
 IN CASE OF INGESTION : Seek medical attention. Never give anything by mouth to an unconscious person. If possible, rinse out mouth and give one or two glasses of water or milk to drink.

## [5. FIRE-FIGHTING MEASURES]

EXTINGUISHING MEDIA : Water spray, powder

- NOT SUITABLE EXTINGUISHING MEDIA : No information available
- SPECIFIC HAZARDS : May produce irritating or toxic gases in a fire.
- SPECIFIC METHODS : Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible.
- PROTECTION OF FIREFIGHTERS : Use goggles in combination with dust mask, and another protections as appropriate to situation.

## [6. ACCIDENTAL RELEASE MEASURES]

- PERSONAL PRECAUTIONS : Use mask, goggles and protective gloves.  
Large spills : Remove person to safety.  
Ensure adequate ventilation.  
Treat from upwind position.
- ENVIRONMENTAL PRECAUTIONS : Do not discharge into the drains, surface waters or ground water directly.
- METHODS FOR CLEANING UP : Sweep or vacuum spills.  
Prevent dispersion of dust.
- PREVENTION OF SECONDARY HAZARDS : No information available

## [7. HANDLING AND STORAGE]

## HANDLING

- TECHNICAL MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- PRECAUTIONS : Avoid inhalation of fine dust .
- SAFE HANDLING ADVICE : Handle in well-ventilated areas.  
Use safety glasses and protective gloves as appropriate to situation.  
Wash hands and face and gargle after handling.

## STORAGE

- STORAGE CONDITIONS : Keep container tightly closed.  
Protect from sun. Store in a well-ventilated room (under 40 C).
- PACKAGING MATERIALS : No information available

## [8. EXPOSURE CONTROLS/PERSONAL PROTECTION]

- ENGINEERING MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use an adequate ventilation.

## LIMIT VALUES

- ACGIH(TLV) : Not established
- OSHA(PEL) : Not established

## PERSONAL PROTECTIVE EQUIPMENT

- RESPIRATORY PROTECTION : Use dust mask, as appropriate to situation.
- HAND PROTECTION : Rubber gloves
- EYE PROTECTION : Safety glasses with side shield(Safety goggles or Face shield)

SKIN AND BODY PROTECTION : Full-body suit  
HYGIENE MEASURES : No information available

**[9. PHYSICAL AND CHEMICAL PROPERTIES]****PHYSICAL STATES**

FORM : Pulverizing powder  
COLOUR : Yellow  
ODOUR : Odourless  
pH : Not applicable

**SPECIFIC TEMPERATURES/TEMPERATURE RANGES AT WHICH CHANGES IN PHYSICAL STATE OCCUR**

BOILING POINT : No data available  
MELTING POINT : No data available  
DECOMPOSITION TEMPERATURE : No data available  
FLASH POINT : Not applicable  
AUTOIGNITION TEMPERATURE : No data available

**EXPLOSION PROPERTIES**

EXPLOSION : UPPER LIMIT : No data available LOWER LIMIT : No data available  
VAPOUR PRESSURE : No data available  
VAPOUR DENSITY : No data available  
DENSITY : 1.2 g/mL ( 20 °C ) ( 68 °F )  
SOLUBILITY  
WATER SOLUBILITY : Insoluble  
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OCTANOL/WATER PARTITION COEFFICIENT : No data available  
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HAZARDOUS REACTIONS : Stable.  
CONDITIONS TO AVOID : No information available  
MATERIALS TO AVOID : No information available  
HAZARDOUS DECOMPOSITION PRODUCTS : No information available  
OTHERS : No information available

**[11. TOXICOLOGICAL INFORMATION]**

ACUTE TOXICITY : LD50 : > 2500 mg/kg  
5.36 mg/L : No death

**LOCAL EFFECTS**

- CORROSIVITY** : No information available
- SKIN IRRITATION** : undiluted : P.I.I = 0, Non-irritant
- EYE IRRITATION** : undiluted, Unwashed eyes : MAS = 1.3, Minimally irritating
- SENSITIZATION** : Negative
- CHRONIC TOXICITY/LONG TERM TOXICITY** : No information available
- CARCINOGENICITY** : No information available
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Silica
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- OTHER DATA** : No information available

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- MOBILITY** : No information available
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