



Product Name: Dye Sublimation Ink Sb53

Yellow

MSDS No.: 031-37W22YC

First issue: Dec 24, 2011

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# Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

## 1. Product and Company Identification

Product Name : Dye Sublimation Ink Sb53 Yellow  
Product Code : SB53-Y-44-1/ SB53-Y-2L-1  
General Use : Ink jet printing ink  
Product Description : Dye Sublimation Ink  
MSDS Number : 031-37W22YC  
Manufacture  
Company Name : Mimaki Engineering Co., Ltd  
Address : 2182-3 Otsu, Shigeno, Tomi-shi, Nagano 389-0512 Japan  
Telephone No. : +81-268-64-2413  
Importer/Distributor Established in USA  
Company Name : MIMAKI USA. INC.  
Address : 150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A  
Telephone No. : 1-678-730-0100  
Emergency Telephone No. : +81-268-64-2413

## 2. Hazards Identification

### WARNING!

Emergency Overview : Irritating to eyes  
May cause adverse kidney effects  
May cause sensitization by skin contact  
Mist or aerosol may be irritating to eyes, nose, throat, and lungs  
Contains a known or suspected mutagen  
Appearance : Yellow  
Physical State : Liquid  
Odor : Specific

### Potential Health Effects

Principle Routes of Exposure : Inhalation. Skin contact. Eye contact.

### Acute Toxicity

Eyes : May cause slight irritation.  
Skin : May cause skin irritation and/or dermatitis.



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|                               |                                                                                                                                                                                                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation                    | : May be harmful if inhaled. Inhalation of aerosols: May cause irritation of respiratory tract.                                                                                                                                                         |
| Ingestion                     | : May be harmful if swallowed.<br>May cause additional affects as listed upper "Inhalation".                                                                                                                                                            |
| Chronic Effects               | : Prolonged exposure may cause chronic effects.<br>May cause adverse kidney effects. Contains materials which based on animal tests may cause adverse reproductive and birth effects at maternally toxic levels. Contains a known or suspected mutagen. |
| Aggravated Medical Conditions | : Respiratory disorders. Kidney disorders.                                                                                                                                                                                                              |
| Environmental Hazard          | : See Section 12 for additional Ecological Information.                                                                                                                                                                                                 |

### 3. Composition / Information On Ingredients

SUBSTANCE/MIXTURE : Mixture

| No | Chemical Name    | Wt%   | CAS No.      | Chemical Formula                             |
|----|------------------|-------|--------------|----------------------------------------------|
| 1  | Propylene glycol | 10-30 | 57-55-6      | C <sub>3</sub> H <sub>8</sub> O <sub>2</sub> |
| 2  | Glycerol         | 1-20  | 56-81-5      | C <sub>3</sub> H <sub>8</sub> O <sub>3</sub> |
| 3  | Disperse dye     | 1-10  | Trade Secret | Trade Secret                                 |
| 4  | Water            | 20-50 | 7732-18-5    | H <sub>2</sub> O                             |
| 5  | Additives        | <5    | Trade Secret | Trade Secret                                 |

OSHA Hazardous : Not hazardous.

Components

(29 CFR 1910. 1200)

### 4. First Aid Measures

|                |                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Advice | : If symptoms persist, call a physician.                                                                                                                                                                            |
| Eye Contact    | : Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. |
| Skin Contact   | : Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.                                                                                                                        |

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Inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, contact emergency medical services immediately.

Ingestion : Call a physician or Poison Control Center immediately. Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice.

Notes to Physician : Treat symptomatically.

## 5. Fire Fighting Measures

Flammable Properties : Combustible material: may burn but does not ignite readily.

Flash Point : Not determined.

Suitable Extinguishing : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

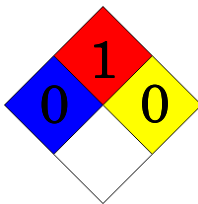
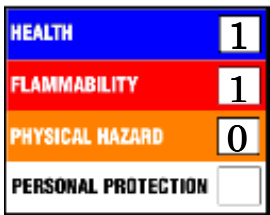
Media

Explosion Data

Sensitivity to Mechanical Impact : None

Sensitivity to Static Discharge : None

Protective Equipment and Precautions for Firefighters : As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

| NFPA                                                                                          | HMIS                                                                                     |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Health Hazard : 0<br>Flammability : 1<br>Instability : 0<br>Physical and Chemical Hazards : - | Health Hazard : 1*<br>Flammability : 1<br>Physical Hazard : 0<br>Personal Protection : - |
|            |     |

## 6. Accidental Release Measures

Personal Precautions : Wear protective gloves/clothing and eye/face protection. Ensure adequate ventilation. Avoid contact with the skin and the eyes.



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- Environmental Precautions : Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.
- Methods for Containment : Prevent further leakage or spillage if safe to do so.
- Methods for Cleaning Up : For spills: Absorb with inert absorbent materials such as: Dry sand. Vermiculite. Activated charcoal. Place in appropriate chemical waste container.

### 7. Handling And Storage

- Handling : Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.
- Storage : Keep container tightly closed in a dry and well-ventilated place.

### 8. Exposure Controls / Personal Protection

#### Exposure Guidelines

| Chemical Name              | ACGIH TLV                         | OSHA PEL                                                                                                                                                                                                                               | NIOSH IDLH |
|----------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Glycerol<br>CAS No 56-81-5 | TWA: 10 mg/m <sup>3</sup><br>mist | TWA: 15 mg/m <sup>3</sup> mist, total particulate<br>TWA: 5 mg/m <sup>3</sup> mist, respirable fraction<br>TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated)<br>TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) | -          |

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits.

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value.

- Other Exposure Guidelines : Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).
- Engineering Measures : Showers  
Eyewash stations  
Ventilation systems

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### Personal Protective Equipment

Eye/Face Protection : Safety glasses with side-shields.



Skin and Body Protection : Wear protective gloves/clothing.



Respiratory Protection : If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.



Hygiene Measures : Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical And Chemical Properties

|                               |                  |                             |
|-------------------------------|------------------|-----------------------------|
| Appearance                    | - Physical state | : Liquid                    |
|                               | - Color          | : Yellow                    |
| Odor                          |                  | : Specific                  |
| Odor Threshold                |                  | : No information available. |
| pH                            |                  | : 6-8                       |
| Boiling Point / Boiling Range |                  | : No information available. |
| Melting Point / Melting Range |                  | : No information available. |
| Decomposition Temperature     |                  | : No information available. |
| Flash Point                   |                  | : No information available. |
| Autoignition Temperature      |                  | : No information available. |
| Flammability Limits in Air    |                  | : No information available. |



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|                  |                             |
|------------------|-----------------------------|
| Explosion Limits | : No information available. |
| Vapor Pressure   | : No data available         |
| Specific Gravity | : 1.0-1.2(25 degree C)      |
| Solubility       | : No information available. |
| Water solubility | : Soluble in water          |
| Viscosity        | : 3-6mPa.s(25 degree C)     |
| Vapor Density    | : No data available         |
| Evaporation Rate | : No information available  |
| VOC Content (%)  | : 20-40                     |

### 10. Stability And Reactivity

|                        |                                                                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conditions to Avoid    | : Heat, flames and sparks.                                                                                                                            |
| Stability              | : Stable under recommended storage conditions.                                                                                                        |
| Incompatible Products  | : Strong oxidizing agents. Chlorosulfonic acid, oleum, sulfuric acid, perchloric acid, chromium trioxide, potassium permanganate and sodium peroxide. |
| Hazardous              | : Sulfur oxides. Nitrogen oxides (NO <sub>x</sub> ). Carbon dioxide (CO <sub>2</sub> ) Carbon                                                         |
| Decomposition Products | monoxide (CO).                                                                                                                                        |
| Hazardous              | : Hazardous polymerization does not occur.                                                                                                            |
| Polymerization         |                                                                                                                                                       |

### 11. Toxicological Information

#### Acute Toxicity

|                     |                                                                                                                                                                           |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Information | : May be harmful if swallowed. May be harmful by inhalation.<br>Mist or aerosol may be irritating to eyes, nose, throat, and lungs.<br>May cause eye and skin irritation. |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Component Information

| Chemical Name    | LD50 Oral           | LD50 Dermal          | LC50 Inhalation                   |
|------------------|---------------------|----------------------|-----------------------------------|
| Disperse dye     | 5 g/kg ( Rat )      | -                    | -                                 |
| Propylene glycol | 20000 mg/kg ( Rat ) | 20800 mg/kg (Rabbit) | -                                 |
| Glycerol         | 12600 mg/kg ( Rat ) | 21900 mg/kg ( Rat )  | 570 mg/m <sup>3</sup> ( Rat ) 1 h |
| Additives        | 1020 mg/kg ( Rat )  | -                    | -                                 |



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### Chronic Toxicity

- Chronic Toxicity : Prolonged exposure may cause chronic effects. May cause adverse kidney effects. Contains materials which based on animal tests may cause adverse reproductive and birth effects at maternally toxic levels. May cause adverse kidney effects. Contains a known or suspected mutagen.
- Sensitization : May cause sensitization by skin contact.
- Target Organ Effects : Kidney and reproductive system.

## 12. Ecological Information

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name    |                            |                                                                                                                                                                                                                     |
|------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Propylene glycol | Toxicity to Algae          | = 19000 mg/L: EC50 96 h (Pseudokirchneriella subcapitata)                                                                                                                                                           |
|                  | Toxicity to Fish           | 41 - 47 mL/L: LC50 96 h static (Oncorhynchus mykiss)<br>= 51400 mg/L: LC50 96 h static (Pimephales promelas)<br>= 51600 mg/L: LC50 96 h static (Oncorhynchus mykiss)<br>= 710 mg/L: LC50 96 h (Pimephales promelas) |
|                  | Toxicity to Microorganisms | EC50 = 710 mg/L 30 min                                                                                                                                                                                              |
|                  | Daphnia Magna (Water Flea) | > 1000 mg/L: EC50 48 h Static (Daphnia magna)<br>> 10000 mg/L: EC50 24 h (Daphnia magna)                                                                                                                            |
| Glycerol         | Toxicity to Fish           | LC50: 51-57 ml/L Oncorhynchus mykiss 96 h static                                                                                                                                                                    |
|                  | Daphnia Magna (Water Flea) | EC50: >500 mg/L Daphnia magna 24 h                                                                                                                                                                                  |

| Chemical Name | Log Pow |
|---------------|---------|
| Glycerol      | -1.76   |
| Additives     | 1.3     |



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### 13. Disposal Considerations

Waste Disposal Methods : This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging : Do not re-use empty containers.

### 14. Transport Information

DOT : Not regulated

TDG : Not regulated

MEX : Not regulated

ICAO : Not regulated

IATA : Not regulated

IMDG/IMO : Not regulated

RID : Not regulated

ADR : Not regulated

ADN : Not regulated

UN No.: Not regulated

### 15. Regulatory Information

#### International Inventories

TSCA : All components are listed on the TSCA Inventory.

DSL : Additives Does not comply

#### Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List





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### U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA).

This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

### SARA 311/312 Hazard Categories

|                                   |       |
|-----------------------------------|-------|
| Acute Health Hazard               | : No  |
| Chronic Health Hazard             | : Yes |
| Fire Hazard                       | : No  |
| Sudden Release of Pressure Hazard | : No  |
| Reactive Hazard                   | : No  |

### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

### U.S. State Regulations

California Proposition 65 : This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

| Chemical Name    | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|------------------|------------|---------------|--------------|----------|--------------|
| Propylene glycol | X          | -             | X            | -        | X            |
| Glycerol         | X          | X             | X            | -        | X            |

### International Regulations



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Canada

: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class : D2A Very toxic materials



### 16. Other Information

#### General Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

#### Revision history

| Version | Date         | Content      |
|---------|--------------|--------------|
| 0.1     | Dec 24, 2010 | First issue. |
|         |              |              |