1. Identification

Product Name: Dye Sublimation Ink Sb54 Black T
Order No.: SB54-KT-44/ SB54-KT-2L
General Use: Ink jet printing ink
Product Description: Dye Sublimation Ink
SDS Number: 037-W360364
Manufacture
Company Name: Mimaki Engineering Co., Ltd.
Address: 2182-3 Shigeno-otsu, 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.: +81-268-64-2281

2. Hazards Identification

[GHS Classification]
Physical Hazards
Flammable Liquids: Not classified

Health Hazards
Eye Damage / Irritation: Category 2
Sensitization – Skin: Category 1

The above list does not include category being non-classifiable or not-applicable.

[GHS Label Elements]
Symbol

Signal Word
Warning
Hazard Statements
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation

Precautionary Statements
[Prevention]
P261 Avoid breathing gas/mist/vapors.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
[Response]
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
   Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see 4·Response on our website/SDS URL: www.mimaki.co.jp/sds).
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.
[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

NFPA Rating (scale 0 – 4)
Health = 2
Flammability = 1
Instability = 0
Special =

CANADIAN WHMIS SYMBOLS
D2B

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Propylene glycol</td>
<td>10-20</td>
<td>57-55-6</td>
</tr>
<tr>
<td>2</td>
<td>Glycerin</td>
<td>5-15</td>
<td>56-81-5</td>
</tr>
<tr>
<td>3</td>
<td>Dye</td>
<td>1-10</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>4</td>
<td>Water</td>
<td>55-65</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>5</td>
<td>Other</td>
<td>&lt;10</td>
<td>Trade Secret</td>
</tr>
</tbody>
</table>
4. First Aid Measures

Inhalation: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Skin Contact: Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation or rash occurs: Get medical advice/attention.

Ingestion: If swallowed, get medical attention.

Most Important Symptoms/Effects
Acute: allergic skin reaction, mild skin irritation, eye irritation
Delayed: allergic skin reaction
Indication of Immediate Medical Attention and Special Treatment Needed, If Needed: Treat symptomatically and supportively.

5. Fire Fighting Measures

Flammable Properties: Flash point Not flammable
Extinguishing Media: carbon dioxide, regular dry chemical, water spray, alcohol resistant foam
Unsuitable Extinguishing Media: Do not scatter spilled material with high-pressure water streams.
Special Hazards Arising from the Chemical Hazardous Combustion Products: Negligible fire hazard.
: oxides of carbon, acrolein, oxides of sulfur
Fire Fighting Measures: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Avoid inhalation of material or combustion by-products.
Special Protective: Wear full protective fire fighting gear including self contained
6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures
Methods and Materials for Containment and Cleaning Up

- Personal Precautions: Wear personal protective clothing and equipment, see Section 8.
- Protective Equipment and Emergency Procedures: Avoid release to the environment.
- Methods and Materials: Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray.
- Cleaning Up: Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

7. Handling and Storage

Precautions for Safe Handling
Conditions for Safe Storage, including any Incompatibilities

- Precautions for Safe Handling: Avoid breathing gas, mist or vapors. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear protective gloves and eye/face protection. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
- Conditions for Safe Storage, including any Incompatibilities: Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure Limit Values

- Glycerin (56-81-5): OSHA: 15 mg/m³ TWA (mist, total particulate);
  5 mg/m³ TWA (mist, respirable fraction)
- Mexico 10 mg/m³ TWA LMPE-PPT (mist)
Component Biological Limit Values: There are no biological limit values for the component(s) of this product.

Exposure Controls

Occupational Exposure Controls
Appropriate Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection
Respiratory Protection: Consult with a health and safety professional for specific respirators appropriate for your use.

Hand Protection: Wear appropriate chemical resistant gloves.

Eye Protection: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection: Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Physical State: Liquid</td>
</tr>
<tr>
<td></td>
<td>Color: Black</td>
</tr>
<tr>
<td>Odor</td>
<td>unique odor</td>
</tr>
<tr>
<td>pH</td>
<td>7-9</td>
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<tr>
<td>Boiling Point / Boiling Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point / Melting Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not flammable</td>
</tr>
</tbody>
</table>
Auto ignition temperature : Not available
Flammability (Solid, Gas) : Not available
Explosive Properties : Not available
Oxidizing Properties : Not available
Upper / Lower Flammability or Explosive Limits
Vapor Pressure
Specific Gravity : 1.0-1.2 (25 °C)
Solubility : Not available
Water Solubility : Soluble
Partition Coefficient (n-octanol / Water) : Not available
Viscosity : 4·6 mPa·s (25 °C)
Vapor Density : Not available
Evaporation Rate : Not available

10. Stability and Reactivity

Reactivity : No reactivity hazard is expected.
Chemical Stability : Stable under normal conditions of use.
Possibility of Hazardous Reactions : Will not polymerize.
Conditions to Avoid : Avoid flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.
Incompatible Materials : acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents, combustible materials, halocarbons, metals, metal salts
Hazardous Decomposition : Combustion: oxides of carbon, acrolein, oxides of sulfur

11. Toxicological Information

Acute Toxicity : The component(s) of this material have been reviewed in various sources and the following selected endpoints are published:

LD50/LC50
- Propylene glycol (57-55-6)
  Oral LD50 Rat 20 g/kg; Dermal LD50 Rabbit 20800 mg/kg
  Glycerin (56-81-5)
  Oral LD50 Rat 12600 mg/kg; Dermal LD50 Rabbit >10 g/kg;
Inhalation LC50 Rat >570 mg/m³ 1 h

Information on Likely Routes of Exposure

Inhalation : irritation, difficulty breathing, headache, nausea
Ingestion : fever, nausea, vomiting, diarrhea, headache, dizziness, sleep disturbances, blood disorders, kidney damage, paralysis, reproductive effects, convulsions, skin disorders, stomach pain, drowsiness, loss of coordination, unconsciousness
Skin Contact : allergic reactions, irritation, nausea, headache, drowsiness, dizziness, loss of coordination
Eye Contact : irritation
Immediate Effects : allergic skin reaction, mild skin irritation, eye irritation
Delayed Effects : allergic skin reaction
Medical Conditions : No information available for the product.

Aggravated by Exposure

Irritation/Corrosivity : mild skin irritation, eye irritation

Respiratory : No information available for the product.
Sensitization

Dermal Sensitization : May cause an allergic skin reaction.
Germ Cell Mutagenicity : No information available for the product.
Carcinogenicity : Component Carcinogenicity

No data listed by ACGIH, IARC, NTP, DFG or OSHA is available for the component(s) of this product.

Reproductive Toxicity : No information available for the product.

Specific Target Organ - Single Exposure : No target organs identified.
Specific Target Organ - Repeated Exposure : No target organs identified.
Aspiration Hazard : Not expected to be an aspiration hazard.
12. Ecological Information

Handling is noted because it might influence the environment when leaking and abandoning it. Especially, note that the product doesn't flow directly to ground, the river, and the drain ditch.

Component Analysis - Aquatic Toxicity

Propylene glycol (57-55-6)
- Fish: 96 Hr LC50 Oncorhynchus mykiss: 51600 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 41 - 47 mL/L [static]; 96 Hr LC50 Pimephales promelas: 51400 mg/L [static]; 96 Hr LC50 Pimephales promelas: 710 mg/L
- Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 19000 mg/L
- Invertebrate: 48 Hr EC50 Daphnia magna: >1000 mg/L [Static]

Glycerin (56-81-5)
- Fish: 96 Hr LC50 Oncorhynchus mykiss: 51 - 57 mL/L [static]

Persistence and Degradability
- No information available for the product.

Bioaccumulation
- No information available for the product.

Mobility
- No information available for the product.

Other Toxicity
- No additional information is available.

13. Disposal Considerations

- Comply with all USA, national and local regulations.
  Do not dump this product into sewers, on the ground or into any body of water.

Disposal Methods
- Dispose in accordance with all applicable regulations.

Component Waste Numbers
- The U.S. EPA has not published waste numbers for this product's components.

Disposal of Contaminated Packaging
- Empty containers may contain product residue. Dispose in accordance with all applicable regulations.
14. Transport Information

Check a thing without a leak in a container.
Perform prevention of collapse of cargo surely.

US DOT Information: Not regulated as a hazardous material for transport.
TDG Information: Not regulated as dangerous goods for transport.
UN Number: Not regulated
Marine Pollutant: Propylene glycol (57-55-6)
IBC Code: Category Z

15. Regulatory Information

U.S. Federal Regulations: None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Title III, Section 311/312
Acute Health: Yes
Chronic Health: No
Fire: No
Pressure: No
Reactive: No

U.S. State Regulations: The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
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<td>No</td>
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<tr>
<td>Glycerin (CAS 56-81-5)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

: Not regulated under California Proposition 65

Canada WHMIS Classification: D2B.

Canadian WHMIS Ingredient Disclosure: Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled
Products Regulations and present above the threshold limits listed on the IDL.

Propylene glycol (57-55-6) 1%

### Chemical Inventory Listings

<table>
<thead>
<tr>
<th>Component</th>
<th>US</th>
<th>CA</th>
<th>EU</th>
<th>AU</th>
<th>PHIL</th>
<th>JP</th>
<th>KR</th>
<th>CN</th>
<th>NZ</th>
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<tbody>
<tr>
<td>Propylene glycol</td>
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<td>DSL</td>
<td>EIN</td>
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<td>Yes</td>
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<td>Glycerin</td>
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<td>EIN</td>
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</tbody>
</table>

### 16. Other Information

**Key/Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; CAS - Chemical Abstracts Service; CLP - Classification, Labelling and Packaging; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; IBC Code - International Bulk Chemical Code; Kow - Octanol/water partition coefficient; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NTP = National Toxicology Program; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; STEL - Short-term Exposure Limit; TWA - Time Weighted Average; UEL - Upper Explosive Limit

**Other Information**

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