1. Identification

Product Name: ES3 ink Silver
Order No.: SPC-0433Si
General Use: Ink for ink jet plotter
Product Description: Solvent pigment ink
SDS Number: 037-S040322
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 : Category 4

Health Hazards
  Acute Toxicity – Oral : Not classified
  Acute Toxicity – Dermal : Not classified
  Acute Toxicity – Inhalation : Not classified
  Skin Corrosion / Irritation : Category 2
  Eye Damage / Irritation : Category 2
  Sensitization – Respiratory : Not classified
  Sensitization – Skin : Not classified
  Germ Cell Mutagenicity : Not classified
  Carcinogenicity : Not classified
  Toxic to Reproduction : Category 1
  Specific Target Organ Toxicity : Category 2 (central nerve)
  (Single Exposure)
Product Name: ES3 ink Silver  
SDS No. 037-S040322  
First issue: 2010/08/06  
Revised: 2014/10/29

Safety Data Sheets

Specific Target Organ Toxicity (Repeated Exposure) : Not classified
Aspiration Hazard : Not classified

Environmental Hazards
- Hazardous to the Aquatic : Not classified
- Hazardous to the Aquatic - Acute Hazard : Not classified
- Hazardous to the Aquatic - Long Term Hazard : Not classified
- Hazardous to the Ozone Layer : Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
- H227 Combustible liquid
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H360 May damage fertility or the unborn child
- H371 May cause damage to organs (central nerve)

Precautionary Statements

[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer’s operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames and other ignition sources. - No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ 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.
P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
P321 Specific treatment (see 4-Response on our website/SDS URL):
3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>65.75</td>
<td>112-36-7</td>
<td>C₈H₁₀O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10.20</td>
<td>143-24-8</td>
<td>C₁₀H₂₂O₅</td>
</tr>
<tr>
<td>3</td>
<td>γ-Butyrolactone</td>
<td>5.15</td>
<td>96-48-0</td>
<td>C₄H₆O₂</td>
</tr>
<tr>
<td>4</td>
<td>Tetraethylene Glycol Monobutyl Ether</td>
<td>1.5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
<tr>
<td>5</td>
<td>Colorants</td>
<td>1.5</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
</tbody>
</table>
### 4. First Aid Measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>IF exposed or concerned: Call a POISON CENTER/ doctor. IF SWALLOWED: Do not induce vomiting.</td>
</tr>
</tbody>
</table>

**Most important symptoms and effects, both acute and delayed**

- Skin: Ink contact with skin may cause irritation, swelling or redness.

**Note To Physician**

- Not necessary

### 5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Autoflammability: None</td>
</tr>
<tr>
<td></td>
<td>Explosive properties: 1.4~6.9v/v% as dipropylene glycol mono-methyl ether</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Water spray, dry chemical, carbon dioxide or, alcohol foam</td>
</tr>
<tr>
<td>Unsuitable Extinguishing Media</td>
<td>None</td>
</tr>
<tr>
<td>Fire Fighting Instructions</td>
<td>Extinguish to use fire fighting media or plentiful fog water. Put protection wear without fail in case of firefighting work.</td>
</tr>
<tr>
<td></td>
<td>Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus). Do not work in the leeward.</td>
</tr>
</tbody>
</table>
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders

- None

Environmental precautions:

- Do not release to sewer, surface or ground water.

Methods and material for containment and cleaning up

Advice on how to contain a spill

- Use sponges to wipe-up ink.

Advice how to clean-up a spill

- Rinse area with damp cloth. Place waste in closed container for disposal.
- Wash hands with soap and water.

Any other information:

- Do not dispose of waste to the sewer.

Reference to other sections

- Please refer SECTION 13 for disposal.

7. Handling and Storage

Handling

- Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage

- Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES

- Not specified
8. Exposure Controls / Personal Protection

### Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>The 8-Hour TWA Exposure Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether</td>
<td>California OELs</td>
</tr>
<tr>
<td></td>
<td>(CAS No. 112-36-7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33mg/m^3</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

### Exposure Controls

#### Occupational Exposure Controls

- **Engineering Controls**: Use exhaust ventilation to avoid from exposure.

- **Personal Protection**
  - **Respiratory Protection**: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where air-borne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.
  - **Hand Protection**: Wear gloves that resist organic solvents and chemicals.
  - **Eye Protection**: Wear coverall, chemical goggles and face shield when handling.
  - **Skin Protection**: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

#### Environmental Exposure Controls

- Not available
9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance - Physical State</td>
<td>liquid</td>
</tr>
<tr>
<td>Appearance - Color</td>
<td>Silver</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<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>about 71°C (Closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Explosive limits: 1.4~6.9v/v% as ( \gamma )-Butyrolactone</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (ies)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No date available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Greater than 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to Avoid</td>
<td>High and freezing temperatures</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable under normal temperature</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>Oxidizers and explosives</td>
</tr>
<tr>
<td>Hazardous Reactions / Decomposition Products</td>
<td>To burn this product may be produce toxic gases.</td>
</tr>
</tbody>
</table>

11. Toxicological Information

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Not meet the criteria for classification according to EU Directive 1999/45/EC</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Diethylene Glycol Diethyl ether : Category 2A (GHS Classification) ( \gamma )-Butyrolactone : Category 2A (GHS Classification)</td>
</tr>
<tr>
<td>Skin Irritation</td>
<td>Diethylene Glycol Diethyl ether : Category 2 (GHS Classification)</td>
</tr>
</tbody>
</table>
Safety Data Sheets

Skin Sensitization  : Not meet the criteria for classification according to EU Directive 1999/45/EC

Mutagenicity      : Not meet the criteria for classification according to EU Directive 1999/45/EC

Carcinogenicity   : Not contain any substances listed in IARC Monographs (1,2A and 2B)

Reproductive Toxicity : Tetraethylene Glycol Dimethyl Ether : Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure)
  - γ-Butyrolactone : Category 2 (central nerve) (GHS Classification)
    Category 3 (drowsiness or dizziness)
    (GHS Classification)

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.

Ecotoxicity        : Not available
Persistence and Degradability : Not available
Bioaccumulative Potential  : Not available
Results of PBT and vPvB assessment : Has not carried out PBT and vPvB assessment
Other Adverse Effects : Not available
13. Disposal Considerations

: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials : Not Applicable

Sea Transport (IMDG)
Class : Not Applicable
Packing Group (PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
Marine Pollutant : Not Applicable

Air Transport (ICAO/IATA)
Class : Not Applicable
Packing Group(PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
15. Regulatory Information

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>Regulated/Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Section 4(a) Final Test Rules</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Regulated TSCA Section 5</td>
<td>Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>Significant New Use Rule Regulation</td>
<td>Reference: 76FR40850</td>
</tr>
<tr>
<td>proposed</td>
<td>Ingredient: Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)</td>
</tr>
<tr>
<td>TSCA Section 8(a) Preliminary Assessment</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Information Rule (PAIR)</td>
<td></td>
</tr>
<tr>
<td>TSCA Section 12(b) One-Time Export Notification Regulated</td>
<td>Reference: TSCA 5 Proposed SNUR</td>
</tr>
<tr>
<td>Clean Air Act Section 112, Hazardous Air Pollutants</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>EPCRA (SARA Title III) Section 313</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>California Proposition 65</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Others</td>
<td>Please refer to any other federal, state and local regulations.</td>
</tr>
</tbody>
</table>

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation. It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process. Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.
1. Identification

Product Name : ES3 ink Black
Order No. : SPC-0440K
General Use : Ink for ink jet plotter
Product Description : Solvent pigment ink
SDS Number : 037-S040316
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 : Category 4

Health Hazards
- Acute Toxicity – Oral : Not classified
- Acute Toxicity – Dermal : Not classified
- Acute Toxicity – Inhalation : Not classified
- Skin Corrosion / Irritation : Category 2
- Eye Damage / Irritation : Category 2
- Sensitization – Respiratory : Not classified
- Sensitization – Skin : Not classified
- Germ Cell Mutagenicity : Not classified
- Carcinogenicity : Not classified
- Toxic to Reproduction : Category 1
- Specific Target Organ Toxicity : Category 2 (central nerve)

(Single Exposure)
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified

Environmental Hazards:
- Hazardous to the Aquatic Environment - Acute Hazard: Not classified
- Hazardous to the Aquatic Environment - Long Term Hazard: Not classified
- Hazardous to the Ozone Layer: Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
- H227 Combustible liquid
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H360 May damage fertility or the unborn child
- H371 May cause damage to organs (central nerve)

Precautionary Statements
[Prevention]
- P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from open flames and other ignition sources. No smoking.
- P260 Do not breathe gas/mist.
- P264 Wash hands and eyes thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ 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.
- P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
- P321 Specific treatment (see 4-Response on our website/SDS URL:}

Product Name: ES3 ink Black
SDS No. 037-S040316
First issue: 2008/06/12
Revised: 2014/10/29
www.mimaki.co.jp/msds).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)  
Health = 3  
Flammability= 2  
Reactivity = 0  
Protective Equipment =

NFPA Rating (scale 0 – 4)  
Health = 3  
Flammability = 2  
Instability = 0  
Special = 0

CANADIAN WHMIS SYMBOLS : Not applicable

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>55-65</td>
<td>112-36-7</td>
<td>C₈H₁₈O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C₁₀H₂₂O₅</td>
</tr>
<tr>
<td>3</td>
<td>γ-Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C₄H₆O₂</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-10</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobuthyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
<tr>
<td>6</td>
<td>Carbon Black</td>
<td>1-5</td>
<td>1333-86-4</td>
<td>-</td>
</tr>
</tbody>
</table>
4. First Aid Measures

Inhalation: IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion: IF exposed or concerned: Call a POISON CENTER/doctor.

IF SWALLOWED: Do not induce vomiting.

Most important symptoms and effects, both acute and delayed:

Skin: Ink contact with skin may cause irritation, swelling or redness.

Note To Physician: Not necessary

5. Fire Fighting Measures

Flash point: about 71°C (Closed cup)
Autoflammability: None
Explosive properties: 1.4~6.9v/v% as dipropylene glycol mono-methyl ether

Extinguishing Media: Water spray, dry chemical, carbon dioxide or, alcohol foam
Unsuitable Extinguishing Media: None

Fire Fighting Instructions: Extinguish to use fire fighting media or plentiful fog water.
Put protection wear without fail in case of firefighting work.
Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).
Do not work in the leeward.
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders: None

Environmental precautions: Do not release to sewer, surface or ground-water.

Methods and material for containment and cleaning up

Advice on how to contain a spill: Use sponges to wipe-up ink.

Advice how to clean-up a spill: Rinse area with damp cloth. Place waste in closed container for disposal. Wash hands with soap and water.

Any other information: Do not dispose of waste to the sewer.

Reference to other sections: Please refer SECTION 13 for disposal.

7. Handling and Storage

Handling: Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage: Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES: Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
<td>California OELs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The 8-Hour TWA Exposure Value: 5 ppm (33mg/m³)</td>
</tr>
<tr>
<td>2</td>
<td>Carbon Black</td>
<td>OSHA PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.5mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.5mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CMRG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5mg/m³</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants
CMRG: Chemical Manufacturer Recommended Guideline

Exposure Controls

Occupational Exposure Controls

Engineering Controls: Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where air-borne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection: Wear gloves that resist organic solvents and chemicals.

Eye Protection: Wear coverall, chemical goggles and face shield when handling.
Skin Protection

To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls

Not available

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>Slightly</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<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>about 71°C (Closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Explosive limits: 1.4~6.9v/v% as γ -Butyrolactone</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (g/s)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Greater than 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>735.6 g/L</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

- Conditions to Avoid: High and freezing temperatures
- Stability: Stable under normal temperature
- Materials to Avoid: Oxidizers and explosives
- Hazardous Reactions / Decomposition Products: To burn this product may be produce toxic gases.
11. Toxicological Information

Acute Toxicity : Oral LD$_{50}$ >2500mg/kg(rats)  
Dermal LD$_{50}$ >2000mg/kg(rats)

Eye Irritation : Moderate irritant. (rabbit, OECD 405)  
Diethylene Glycol Diethyl ether : Category 2A (GHS Classification)  
γ-Butyrolactone : Category 2A (GHS Classification)

Skin Irritation : Mild irritant. (rabbit, OECD 404)  
Diethylene Glycol Diethyl ether : Category 2 (GHS Classification)

Skin Sensitization : Non-sensitizer(LLNA, OECD 429)

Mutagenicity : Negative (by Ames Test)

Carcinogenicity : With excessive exposure, carbon black has been listed as a possible human carcinogen. However, as engineered within this ink cartridge, emissions to air of carbon black during normal printing use have not been found. IARC, the International Agency for Research on Cancer, has found printing inks to be not classifiable as human carcinogens.

Reproductive Toxicity : Tetraethylene Glycol Dimethyl Ether : Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure)  
γ-Butyrolactone : Category 2 (central nerve) (GHS Classification)  
Category 3 (drowsiness or dizziness) (GHS Classification)

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.

Ecotoxicity : Not available

Persistence and Degradability : Not available

Bioaccumulative Potential : Not available
Results of PBT and vPvB assessment: Has not carried out PBT and vPvB assessment
Other Adverse Effects: Not available

13. Disposal Considerations

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Comply with all USA, national and local regulations. Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials: Not Applicable
Sea Transport (IMDG)
Class: Not Applicable
Packing Group (PG): Not Applicable
UN Number: Not Applicable
Proper Shipping Name: Not Applicable
Marine Pollutant: Not Applicable
Air Transport (ICAO/IATA)
Class: Not Applicable
Packing Group(PG): Not Applicable
UN Number: Not Applicable
Proper Shipping Name: Not Applicable
15. Regulatory Information

TSCA Section 4(a) : Not regulated
Final Test Rules
Regulated
TSCA Section 5 : Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
Significant New Use
Rule Regulation Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
proposed Reference: 76FR40850
TSCA Section 8(a) : Not regulated
Preliminary Assessment
Information Rule (PAIR)
TSCA Section 12(b) Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
One-Time Export Reference: TSCA 5 Proposed SNUR
Notification Regulated Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
Reference: TSCA 5 Proposed SNUR
Clean Air Act Section : Diethylene glycol diethyl ether (CAS No. 112-36-7)
112, Hazardous Air
Pollutants
EPCRA : Diethylene glycol diethyl ether (CAS No. 112-36-7)
(SARA Title III)
Section 313
California Proposition : Not regulated
65
Others : Please refer to any other federal, state and local regulations.

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to
the best knowledge of Mimaki Engineering Corporation.
It relates only to the specific material designated herein, and does not relate to use in
combination with any other material or process.
Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this
information.
1. Identification

Product Name : ES3 ink Magenta
Order No. : SPC-0440M
General Use : Ink for ink jet plotter
Product Description : Solvent pigment ink
SDS Number : 037-S040317
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 : Category 4

Health Hazards
  Acute Toxicity – Oral : Not classified
  Acute Toxicity – Dermal : Not classified
  Acute Toxicity – Inhalation : Not classified
  Skin Corrosion / Irritation : Category 2
  Eye Damage / Irritation : Category 2
  Sensitization – Respiratory : Not classified
  Sensitization – Skin : Not classified
  Germ Cell Mutagenicity : Not classified
  Carcinogenicity : Not classified
  Toxic to Reproduction : Category 1
  Specific Target Organ Toxicity (Single Exposure) : Category 2 (central nerve)
Specific Target Organ Toxicity (Repeated Exposure) : Not classified
Aspiration Hazard : Not classified

Environmental Hazards
Hazardous to the Aquatic : Not classified
Environment · Acute Hazard
Hazardous to the Aquatic : Not classified
Environment · Long Term Hazard
Hazardous to the Ozone Layer : Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
H227 Combustible liquid
H315 Causes skin irritation
H319 Causes serious eye irritation
H360 May damage fertility or the unborn child
H371 May cause damage to organs (central nerve)

Precautionary Statements
[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames and other ignition sources.·No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ 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.
P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
P321 Specific treatment (see 4-Response on our website/SDS URL:}
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)  NFPA Rating (scale 0 – 4)
Health = 3  Health = 3
Flammability = 2  Flammability = 2
Reactivity = 0  Instability = 0
Protective Equipment = 0  Special = 0

CANADIAN WHMIS SYMBOLS: Not applicable

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>55-65</td>
<td>112-36-7</td>
<td>C₈H₁₈O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C₁₀H₂₂O₅</td>
</tr>
<tr>
<td>3</td>
<td>γ -Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C₄H₆O₂</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-10</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobuthyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
<tr>
<td>6</td>
<td>Colorants</td>
<td>1-5</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
</tbody>
</table>
## 4. First Aid Measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>IF exposed or concerned: Call a POISON CENTER/ doctor. IF SWALLOWED: Do not induce vomiting.</td>
</tr>
<tr>
<td>Most important symptoms and effects, both acute and delayed</td>
<td>Skin: Ink contact with skin may cause irritation, swelling or redness.</td>
</tr>
</tbody>
</table>

### Note To Physician
- Not necessary

## 5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>about 71°C (Closed cup)</td>
</tr>
<tr>
<td>Autoflammability</td>
<td>None</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>1.4~6.9/v/v% as dipropylene glycol mono-methyl ether</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Water spray, dry chemical, carbon dioxide or, alcohol foam</td>
</tr>
<tr>
<td>Unsuitable Extinguishing Media</td>
<td>None</td>
</tr>
<tr>
<td>Fire Fighting Instructions</td>
<td>Extinguish to use fire fighting media or plentiful fog water.</td>
</tr>
<tr>
<td></td>
<td>Put protection wear without fail in case of firefighting work.</td>
</tr>
<tr>
<td></td>
<td>Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).</td>
</tr>
<tr>
<td></td>
<td>Do not work in the leeward.</td>
</tr>
</tbody>
</table>
6. **Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel: Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders: None

**Environmental precautions:**

Do not release to sewer, surface or ground water.

**Methods and material for containment and cleaning up**

Advice on how to contain a spill: Use sponges to wipe-up ink.

Advice how to clean-up a spill: Rinse area with damp cloth. Place waste in closed container for disposal. Wash hands with soap and water.

Any other information: Do not dispose of waste to the sewer.

Reference to other sections: Please refer SECTION 13 for disposal.

7. **Handling and Storage**

**Handling**: Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

**Storage**: Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

**SPECIFIC USES**: Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>The 8-Hour TWA Exposure Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
<td>California OELs</td>
</tr>
</tbody>
</table>

California OELs : California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Exposure Controls

Occupational Exposure Controls

Engineering Controls : Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection : An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where air-borne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection : Wear gloves that resist organic solvents and chemicals.

Eye Protection : Wear coverall, chemical goggles and face shield when handling.

Skin Protection : To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls

: Not available
9. Physical and Chemical Properties

- **Appearance**
  - Physical State: liquid
  - Color: Magenta

- **Odor**: Slightly

- **pH**: Not Applicable

- **Boiling Point / Boiling Range**: Not available

- **Melting Point / Melting Range**: Not available

- **Decomposition Temperature**: Not available

- **Flash Point**: about 71°C (Closed cup)

- **Auto ignition temperature**: Not available

- **Explosive Properties**: Explosive limits: 1.4~6.9v/v% as γ-Butyrolactone

- **Relative Density (ies)**: Not available

- **Solubility**: Soluble

- **Viscosity**: Not available

- **Vapor Density**: Greater than 1 (air = 1)

- **Evaporation Rate**: Not available

- **VOC**: 742.4 g/L

10. Stability and Reactivity

- **Conditions to Avoid**: High and freezing temperatures

- **Stability**: Stable under normal temperature

- **Materials to Avoid**: Oxidizers and explosives

- **Hazardous Reactions / Decomposition Products**: To burn this product may be produce toxic gases.

11. Toxicological Information

- **Acute Toxicity**
  - Oral LD₅₀: >2500mg/kg(rats)
  - Dermal LD₅₀: >2000mg/kg(rats)

- **Eye Irritation**: Moderate irritant. (rabbit, OECD 405)
  - Diethylene Glycol Diethyl ether: Category 2A (GHS Classification)
  - γ-Butyrolactone: Category 2A (GHS Classification)
Safety Data Sheets

Skin Irritation: Mild irritant. (rabbit, OECD 404)
Diethylene Glycol Diethyl ether: Category 2 (GHS Classification)

Skin Sensitization: Non-sensitizer (LLNA, OECD 429)

Mutagenicity: Negative (by Ames Test)

Carcinogenicity: Not meet the criteria for classification according to EU Directive 1999/45/EC
Not contain any substances listed in IARC Monographs (1,2A and 2B)

Reproductive Toxicity: Tetraethylene Glycol Dimethyl Ether: Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure):
γ-Butyrolactone: Category 2 (central nerve) (GHS Classification)
Category 3 (drowsiness or dizziness) (GHS Classification)

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.

Ecotoxicity: Not available
Persistence and Degradability: Not available
Bioaccumulative Potential: Not available
Results of PBT and vPvB assessment: Has not carried out PBT and vPvB assessment
Other Adverse Effects: Not available
13. Disposal Considerations

: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials : Not Applicable

Sea Transport (IMDG)
Class : Not Applicable
Packing Group (PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
Marine Pollutant : Not Applicable

Air Transport (ICAO/IATA)
Class : Not Applicable
Packing Group (PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
15. Regulatory Information

TSCA Section 4(a) : Not regulated
Final Test Rules
Regulated
TSCA Section 5 : Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
Significant New Use
Rule Regulation
proposed
TSCA Section 8(a) : Not regulated
Preliminary Assessment
Information Rule (PAIR)
TSCA Section 12(b) Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
One-Time Export
Reference: TSCA 5 Proposed SNUR
Notification Regulated Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
Reference: 76FR40850
Clean Air Act Section : Diethylene glycol diethyl ether (CAS No. 112-36-7)
112, Hazardous Air Pollutants
EPCRA : Diethylene glycol diethyl ether (CAS No. 112-36-7)
(SARA Title III)
Section 313
California Proposition : Not regulated
65
Others : Please refer to any other federal, state and local regulations.

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to
the best knowledge of Mimaki Engineering Corporation.
It relates only to the specific material designated herein, and does not relate to use in
combination with any other material or process.
Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this
information.
1. Identification

Product Name : ES3 ink Yellow
Order No. : SPC-0440Y
General Use : Ink for ink jet plotter
Product Description : Solvent pigment ink
SDS Number : 037-S040318
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 : Category 4

Health Hazards
  Acute Toxicity – Oral : Not classified
  Acute Toxicity – Dermal : Not classified
  Acute Toxicity – Inhalation : Not classified
  Skin Corrosion / Irritation : Category 2
  Eye Damage / Irritation : Category 1
  Sensitization – Respiratory : Not classified
  Sensitization – Skin : Not classified
  Germ Cell Mutagenicity : Not classified
  Carcinogenicity : Not classified
  Toxic to Reproduction : Category 1
  Specific Target Organ Toxicity : Category 2 (central nerve)
(Single Exposure)
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified

Environmental Hazards
Hazardous to the Aquatic Environment - Acute Hazard: Not classified
Hazardous to the Aquatic Environment - Long Term Hazard: Not classified
Hazardous to the Ozone Layer: Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
H227 Combustible liquid
H315 Causes skin irritation
H318 Causes serious eye damage
H360 May damage fertility or the unborn child
H371 May cause damage to organs (central nerve)

Precautionary Statements
[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames and other ignition sources. - No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ eye protection/ face protection.

[Response]
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
(P305+) P310 (IF IN EYES:) Immediately call a POISON CENTER/ doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
Safety Data Sheets

Product Name: ES3 ink Yellow
SDS No. 037-S040318
First issue: 2008/06/12
Revised: 2014/10/29

P321 Specific treatment (see 4-Response on our website/SDS URL:
www.mimaki.co.jp/msds).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon
dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/
international regulation (to be specified).

HMIS Rating (scale 0 – 4)          NFPA Rating (scale 0 – 4)
Health = 3          Health = 3
Flammability= 2     Flammability = 2
Reactivity = 0      Instability = 0
Protective Equipment = Special = 0

CANADIAN WHMIS SYMBOLS : Not applicable

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>55-65</td>
<td>112-36-7</td>
<td>C_{8}H_{18}O_{3}</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C_{10}H_{22}O_{5}</td>
</tr>
<tr>
<td>3</td>
<td>γ -Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C_{4}H_{8}O_{2}</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-10</td>
<td>Trade Secret</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobuthyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C_{12}H_{26}O_{5}</td>
</tr>
<tr>
<td>6</td>
<td>Colorants (Nickel compound)</td>
<td>1-5</td>
<td>Trade Secret</td>
<td></td>
</tr>
</tbody>
</table>
4. First Aid Measures

Inhalation: IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. Immediately call a POISON CENTER/ doctor.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion: IF exposed or concerned: Call a POISON CENTER/ doctor.

IF SWALLOWED: Do not induce vomiting.

Most important symptoms and effects, both acute and delayed:

- Skin: Ink contact with skin may cause irritation, swelling or redness.

Note To Physician: Not necessary

5. Fire Fighting Measures


- Flash point: about 71℃ (Closed cup)
- Autoflammability: None
- Explosive properties: 1.4~6.9v/v% as dipropylene glycol mono-methyl ether

Extinguishing Media: Water spray, dry chemical, carbon dioxide or, alcohol foam

Unsuitable Extinguishing Media: None

Fire Fighting Instructions: Extinguish to use fire fighting media or plentiful fog water.

- Put protection wear without fail in case of firefighting work.
- Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).
- Do not work in the leeward.
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
- Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders:
- None

Environmental precautions:
- Do not release to sewer, surface or ground water.

Methods and material for containment and cleaning up

Advice on how to contain a spill:
- Use sponges to wipe-up ink.

Advice how to clean-up a spill:
- Rinse area with damp cloth. Place waste in closed container for disposal.
- Wash hands with soap and water.

Any other information:
- Do not dispose of waste to the sewer.

Reference to other sections:
- Please refer SECTION 13 for disposal.

7. Handling and Storage

Handling:
- Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage:
- Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES:
- Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>The 8-Hour TWA Exposure Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
<td>California OELs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33mg/m³</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Exposure Controls

Occupational Exposure Controls

Engineering Controls: Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection: Wear gloves that resist organic solvents and chemicals.

Eye Protection: Wear coverall, chemical goggles and face shield when handling.

Skin Protection: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls: Not available
9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance : Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance : Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<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>About 71°C (Closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Explosive limits: 1.4~6.9v/v% as γ-Butyrolactone</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (ies)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Greater than 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>743.1 g/L</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

- Conditions to Avoid: High and freezing temperatures
- Stability: Stable under normal temperature
- Materials to Avoid: Oxidizers and explosives
- Hazardous Reactions / Decomposition Products: To burn this product may be produce toxic gases.

11. Toxicological Information

- Acute Toxicity: Oral LD$_{50}$ >2500mg/kg (rats) Dermal LD$_{50}$ >2000mg/kg (rats)
- Eye Irritation: Corrosive effects (rabbit, OECD 405)
  - Diethylene Glycol Diethyl ether: Category 2A (GHS Classification)
  - γ-Butyrolactone: Category 2A (GHS Classification)
Safety Data Sheets

Skin Irritation: Mild irritant. (rabbit, OECD 404)
   Diethylene Glycol Diethyl ether: Category 2 (GHS Classification)

Skin Sensitization: Non-sensitizer (LLNA, OECD 429)

Mutagenicity: Negative (by Ames Test)

Carcinogenicity: Contains Nickel compounds (IARC: Group 1, NTP: Known to be human carcinogen, Proposition 65: Known to cause cancer)

Reproductive Toxicity: Tetraethylene Glycol Dimethyl Ether: Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure):
   γ-Butyrolactone: Category 2 (central nerve) (GHS Classification)
      Category 3 (drowsiness or dizziness) (GHS Classification)

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.

Ecotoxicity: Not available

Persistence and Degradability: Not available

Bioaccumulative Potential: Not available

Results of PBT and vPvB assessment: Has not carried out PBT and vPvB assessment

Other Adverse Effects: Not available
13. Disposal Considerations

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials : Not Applicable

Sea Transport (IMDG)
Class : Not Applicable
Packing Group (PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
Marine Pollutant : Not Applicable

Air Transport (ICAO/IATA)
Class : Not Applicable
Packing Group(PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
## 15. Regulatory Information

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Section 4(a)</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Final Test Rules Regulated</td>
<td></td>
</tr>
<tr>
<td>TSCA Section 5</td>
<td>Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>Significant New Use Rule Regulation proposed</td>
<td>Reference: 76FR40850</td>
</tr>
<tr>
<td>TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR)</td>
<td>Not regulated</td>
</tr>
<tr>
<td>TSCA Section 12(b) One-Time Export Notification Regulated</td>
<td>Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7) Reference: TSCA 5 Proposed SNUR</td>
</tr>
<tr>
<td>Clean Air Act Section 112, Hazardous Air Pollutants EPCRA (SARA Title III) Section 313</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>California Proposition 65 Others</td>
<td>“WARNING: This product contains a chemical known to the State of California to cause cancer.” Please refer to any other federal, state and local regulations.</td>
</tr>
</tbody>
</table>

## 16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation. It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process. Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.
1. Identification

Product Name: ES3 ink White  
Order No.: SPC-0433W  
General Use: Ink for ink jet plotter  
Product Description: Solvent pigment ink  
SDS Number: 037-S040321  
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: Category 4

Health Hazards

- Acute Toxicity – Oral: Not classified
- Acute Toxicity – Dermal: Not classified
- Acute Toxicity – Inhalation: Not classified
- Skin Corrosion / Irritation: Category 2
- Eye Damage / Irritation: Category 2
- Sensitization – Respiratory: Not classified
- Sensitization – Skin: Not classified
- Germ Cell Mutagenicity: Not classified
- Carcinogenicity: Not classified
- Toxic to Reproduction: Category 1
- Specific Target Organ Toxicity: Category 2 (central nerve)

(Single Exposure)
Specific Target Organ Toxicity: Not classified  
(Repeated Exposure)
Aspiration Hazard: Not classified

Environmental Hazards
Hazardous to the Aquatic: Not classified  
Environment - Acute Hazard
Hazardous to the Aquatic: Not classified  
Environment - Long Term Hazard
Hazardous to the Ozone Layer: Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
H227 Combustible liquid
H315 Causes skin irritation
H319 Causes serious eye irritation
H360 May damage fertility or the unborn child
H371 May cause damage to organs (central nerve)

Precautionary Statements
[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames and other ignition sources. No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ 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.
P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
P321 Specific treatment (see 4-Response on our website/SDS URL:}
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)                      NFPA Rating (scale 0 – 4)
Health = 3                                      Health = 3
Flammability= 2                                 Flammability = 2
Reactivity = 0                                  Instability = 0
Protective Equipment =                         Special = 0

CANADIAN WHMIS SYMBOLS : Not applicable

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>45.55</td>
<td>112-36-7</td>
<td>C₈H₁₈O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C₁₀H₂₀O₅</td>
</tr>
<tr>
<td>3</td>
<td>Titanium dioxide</td>
<td>10-20</td>
<td>13463-67-7</td>
<td>TiO²</td>
</tr>
<tr>
<td>3</td>
<td>γ -Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C₄H₈O₂</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-10</td>
<td>Trade Secret</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobuthyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
</tbody>
</table>
4. First Aid Measures

Inhalation: IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion: IF exposed or concerned: Call a POISON CENTER/ doctor.

IF SWALLOWED: Do not induce vomiting.

Most important symptoms and effects, both acute and delayed

Skin: Ink contact with skin may cause irritation, swelling or redness.

Note To Physician: Not necessary

5. Fire Fighting Measures

Flash point: about 71°C (Closed cup)
Autoflammability: None
Explosive properties: 1.4~6.9 v/v% as dipropylene glycol mono-methyl ether

Extinguishing Media: Water spray, dry chemical, carbon dioxide or, alcohol foam

Unsuitable Extinguishing Media: None

Fire Fighting Instructions: Extinguish to use fire fighting media or plentiful fog water.
Put protection wear without fail in case of firefighting work.
Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).
Do not work in the leeward.
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders: None

Environmental precautions: Do not release to sewer, surface or ground water.

Methods and material for containment and cleaning up

Advice on how to contain a spill: Use sponges to wipe-up ink.

Advice how to clean-up a spill: Rinse area with damp cloth. Place waste in closed container for disposal. Wash hands with soap and water.

Any other information: Do not dispose of waste to the sewer.

Reference to other sections: Please refer SECTION 13 for disposal.

7. Handling and Storage

Handling: Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage: Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES: Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>California OELs</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether</td>
<td>California OELs</td>
<td>The 8-Hour TWA Exposure Value: 5 ppm (33mg/m³)</td>
</tr>
<tr>
<td></td>
<td>(CAS No. 112-36-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Titanium dioxide</td>
<td>OSHA PEL</td>
<td>15mg/m³</td>
</tr>
<tr>
<td></td>
<td>(CAS No. 13463-67-7)</td>
<td>ACGIH TLV</td>
<td>10mg/m³</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Exposure Controls

Occupational Exposure Controls

Engineering Controls: Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where air-borne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection: Wear gloves that resist organic solvents and chemicals.

Eye Protection: Wear coverall, chemical goggles and face shield when handling.

Skin Protection: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls
9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<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>About 71°C (Closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Explosive limits: 1.4~6.9v/v% as γ-Butyrolactone</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (i.e.)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No date available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Greater than 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to Avoid</td>
<td>High and freezing temperatures</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable under normal temperature</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>Oxidizers and explosives</td>
</tr>
<tr>
<td>Hazardous Reactions / Decomposition Products</td>
<td>To burn this product may be produce toxic gases.</td>
</tr>
</tbody>
</table>

11. Toxicological Information

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Not meet the criteria for classification according to EU Directive 1999/45/EC</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Diethylene Glycol Diethyl ether : Category 2A (GHS Classification) γ-Butyrolactone : Category 2A (GHS Classification)</td>
</tr>
<tr>
<td>Skin Irritation</td>
<td>Diethylene Glycol Diethyl ether : Category 2 (GHS Classification)</td>
</tr>
</tbody>
</table>
Skin Sensitization: Not meet the criteria for classification according to EU Directive 1999/45/EC

Mutagenicity: Not meet the criteria for classification according to EU Directive 1999/45/EC

Carcinogenicity: Titanium dioxide is classified as “possibly carcinogen to human” (Group 2B) in animal chronic inhalation studies. The tumor formulation observed in only rats with animal chronic inhalation study are attributed to “lung overloading”, a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended does not result in inhalation of excessive dust. Epidemiological study to date have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the reperatory tract beyond general effects of dust.

Reproductive Toxicity: Tetraethylene Glycol Dimethyl Ether: Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure):
  - γ-Butyrolactone: Category 2 (central nerve) (GHS Classification)
    Category 3 (drowsiness or dizziness) (GHS Classification)

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.

Ecotoxicity: Not available
Persistence and Degradability: Not available
Bioaccumulative Potential: Not available
Results of PBT and vPvB assessment: Has not carried out PBT and vPvB assessment
Other Adverse Effects: Not available
13. Disposal Considerations

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials : Not Applicable

Sea Transport (IMDG)
Class : Not Applicable
Packing Group (PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
Marine Pollutant : Not Applicable

Air Transport (ICAO/IATA)
Class : Not Applicable
Packing Group(PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
15. Regulatory Information

<table>
<thead>
<tr>
<th>TSCA Section 4(a)</th>
<th>: Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Test Rules</td>
<td>Regulated</td>
</tr>
<tr>
<td>TSCA Section 5</td>
<td>Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>Significant New Use</td>
<td>Reference: 76FR40850</td>
</tr>
<tr>
<td>Rule Regulation</td>
<td>Ingredient: Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)</td>
</tr>
<tr>
<td>proposed</td>
<td>Reference: 76FR40850</td>
</tr>
<tr>
<td>TSCA Section 8(a)</td>
<td>Preliminary Assessment Information Rule (PAIR)</td>
</tr>
<tr>
<td>TSCA Section 12(b)</td>
<td>Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>One-Time Export</td>
<td>Reference: TSCA 5 Proposed SNUR</td>
</tr>
<tr>
<td>Notification Regulated</td>
<td>Ingredient: Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)</td>
</tr>
<tr>
<td>Clean Air Act Section</td>
<td>Reference: TSCA 5 Proposed SNUR</td>
</tr>
<tr>
<td>112, Hazardous Air Pollutants</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>Clean Air Act Section</td>
<td>EPCRA (SARA Title III)</td>
</tr>
<tr>
<td>Section 313</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
</tr>
<tr>
<td>California Proposition 65</td>
<td>Titanium dioxide (CAS No. 13463-67-7)</td>
</tr>
<tr>
<td>Others</td>
<td>Please refer to any other federal, state and local regulations.</td>
</tr>
</tbody>
</table>

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation. It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process. Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.
1. Identification

Product Name: ES3 ink Light Magenta
Order No.: SPC-0440LM
General Use: Ink for ink jet plotter
Product Description: Solvent pigment ink
SDS Number: 037-S040320
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: Category 4

Health Hazards
Acute Toxicity – Oral: Not classified
Acute Toxicity – Dermal: Not classified
Acute Toxicity – Inhalation: Not classified
Skin Corrosion / Irritation: Category 2
Eye Damage / Irritation: Category 2
Sensitization – Respiratory: Not classified
Sensitization – Skin: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Not classified
Toxic to Reproduction: Category 1
Specific Target Organ Toxicity: Category 2 (central nerve)
(Single Exposure)
Safety Data Sheets

Specific Target Organ Toxicity (Repeated Exposure):
- Not classified

Aspiration Hazard:
- Not classified

Environmental Hazards:
- Hazardous to the Aquatic:
  - Acute Hazard: Not classified
  - Long Term Hazard: Not classified

- Hazardous to the Ozone Layer: Not classified

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

[GHS Label Elements]

Symbol

Signal Word
Danger

Hazard Statements:
- H227 Combustible liquid
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H360 May damage fertility or the unborn child
- H371 May cause damage to organs (central nerve)

Precautionary Statements

[Prevention]
- P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from open flames and other ignition sources. No smoking.
- P260 Do not breathe gas/mist.
- P264 Wash hands and eyes thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ 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.
- P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
- P321 Specific treatment (see 4-Response on our website/SDS URL)
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)  NFPA Rating (scale 0 – 4)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Health = 3  Flammability = 2  Reactivity = 0

HMIS Rating (scale 0 – 4)  NFPA Rating (scale 0 – 4)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Health = 3  Flammability = 2  Instability = 0  Special = 0

CANADIAN WHMIS SYMBOLS: Not applicable

### 3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>55-65</td>
<td>112-36-7</td>
<td>C₈H₁₈O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C₁₀H₂₂O₅</td>
</tr>
<tr>
<td>3</td>
<td>γ-Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C₄H₄O₂</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-5</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobuthyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
<tr>
<td>6</td>
<td>Colorants</td>
<td>&lt;1</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
</tbody>
</table>
4. First Aid Measures

Inhalation: IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion: IF exposed or concerned: Call a POISON CENTER/ doctor.
IF SWALLOWED: Do not induce vomiting.

Most important symptoms and effects, both acute and delayed:

- Skin: Ink contact with skin may cause irritation, swelling or redness.

Note To Physician: Not necessary

5. Fire Fighting Measures

- Flash point : about 71°C (Closed cup)
- Autoflamability: None
- Explosive properties: 1.4~6.9v/v% as dipropylene glycol mono-methyl ether

Extinguishing Media: Water spray, dry chemical, carbon dioxide or, alcohol foam

Unsuitable Extinguishing Media: None

Fire Fighting Instructions: Extinguish to use fire fighting media or plentiful fog water.
Put protection wear without fail in case of firefighting work.
Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).
Do not work in the leeward.
6. **Accidental Release Measures**

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
- Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders:
- None

Environmental precautions:
- Do not release to sewer, surfaceewater.

Methods and material for containment and cleaning up

Advice on how to contain a spill:
- Use sponges to wipe-up ink.

Advice how to clean-up a spill:
- Rinse area with damp cloth. Place waste in closed container for disposal.
  - Wash hands with soap and water.

Any other information:
- Do not dispose of waste to the sewer.

Reference to other sections:
- Please refer SECTION 13 for disposal.

7. **Handling and Storage**

Handling:
- Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage:
- Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES:
- Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>California OELs</th>
<th>The 8-Hour TWA Exposure Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
<td>California OELs</td>
<td>5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>33mg/m³</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Exposure Controls

Occupational Exposure Controls

Engineering Controls: Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection: Wear gloves that resist organic solvents and chemicals.

Eye Protection: Wear coverall, chemical goggles and face shield when handling.

Skin Protection: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls

: Not available
## 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: Magenta</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<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>about 71°C (Closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Explosive limits: 1.4~6.9v/v% as γ-Butyrolactone</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (ies)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Greater than 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>756.5 g/L</td>
</tr>
</tbody>
</table>

## 10. Stability and Reactivity

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to Avoid</td>
<td>High and freezing temperatures</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable under normal temperature</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>Oxidizers and explosives</td>
</tr>
<tr>
<td>Hazardous Reactions / Decomposition Products</td>
<td>To burn this product may be produce toxic gases.</td>
</tr>
</tbody>
</table>

## 11. Toxicological Information

<table>
<thead>
<tr>
<th>Toxicological Information</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Oral LD_{50} &gt;2500mg/kg(rats)</td>
</tr>
<tr>
<td></td>
<td>Dermal LD_{50} &gt;2000mg/kg(rats)</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Moderate irritant. (rabbit, OECD 405)</td>
</tr>
<tr>
<td></td>
<td>Diethyleneglycol diethyl ether: Category 2A (GHS Classification)</td>
</tr>
<tr>
<td></td>
<td>γ-Butyrolactone: Category 2A (GHS Classification)</td>
</tr>
</tbody>
</table>
### Safety Data Sheets

**Product Name**: ES3 ink Light Magenta  
**SDS No.**: 037-S040320  
**First issue**: 2008/06/12  
**Revised**: 2014/10/29

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Skin Irritation**              | : Mild irritant. (rabbit, OECD 404)  
|                                  | Diethylene Glycol Diethyl ether : Category 2 (GHS Classification)                                                                                                                                           |
| **Skin Sensitization**           | : Non-sensitizer(LLNA, OECD 429)                                                                                                                                                                           |
| **Mutagenicity**                 | : Negative (by Ames Test)                                                                                                                                                                                   |
| **Carcinogenicity**              | : Not meet the criteria for classification according to EU Directive 1999/45/EC  
|                                  | Not contain any substances listed in IARC Monographs (1,2A and 2B)                                                                                                                                         |
| **Reproductive Toxicity**        | : Tetraethylene Glycol Dimethyl Ether : Category 1B (GHS Classification)                                                                                                                                 |
| **Specific Target Organ Toxicity (Single Exposure)** | : γ-Butyrolactone : Category 2 (central nerve) (GHS Classification)  
|                                  | Category 3 (drowsiness or dizziness) (GHS Classification)                                                                                                                                                 |

### 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.

- **Ecotoxicity** : Not available  
- **Persistence and Degradability** : Not available  
- **Bioaccumulative Potential** : Not available  
- **Results of PBT and vPvB assessment** : Has not carried out PBT and vPvB assessment  
- **Other Adverse Effects** : Not available
13. Disposal Considerations

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials: Not Applicable

Sea Transport (IMDG)
Class: Not Applicable
Packing Group (PG): Not Applicable
UN Number: Not Applicable
Proper Shipping Name: Not Applicable
Marine Pollutant: Not Applicable

Air Transport (ICAO/IATA)
Class: Not Applicable
Packing Group(PG): Not Applicable
UN Number: Not Applicable
Proper Shipping Name: Not Applicable
15. Regulatory Information

TSCA Section 4(a) Final Test Rules Regulated

TSCA Section 5 Significant New Use Rule Regulation proposed
Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7)
Reference: 76FR40850
Ingredient: Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
Reference: 76FR40850

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR)

TSCA Section 12(b) One-Time Export Notification Regulated
Ingredient: Diethylene glycol diethyl ether (CAS No. 112-36-7)
Reference: TSCA 5 Proposed SNUR
Ingredient: Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
Reference: TSCA 5 Proposed SNUR

Clean Air Act Section 112, Hazardous Air Pollutants
EPCRA (SARA Title III) Section 313
California Proposition 65
Others

Reference: Please refer to any other federal, state and local regulations.

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.

Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.
1. Identification

Product Name: ES3 ink Light Cyan
Order No.: SPC-0440LC
General Use: Ink for ink jet plotter
Product Description: Solvent pigment ink
SDS Number: 037-S040319
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: Category 4

Health Hazards
Acute Toxicity – Oral: Not classified
Acute Toxicity – Dermal: Not classified
Acute Toxicity – Inhalation: Not classified
Skin Corrosion / Irritation: Category 2
Eye Damage / Irritation: Category 2
Sensitization – Respiratory: Not classified
Sensitization – Skin: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Not classified
Toxic to Reproduction: Category 1
Specific Target Organ Toxicity: Category 2 (central nerve)
(Single Exposure)
Safety Data Sheets

Specific Target Organ Toxicity (Repeated Exposure) : Not classified
Aspiration Hazard : Not classified

Environmental Hazards
Hazardous to the Aquatic : Not classified
Environment · Acute Hazard
Hazardous to the Aquatic : Not classified
Environment · Long Term Hazard
Hazardous to the Ozone Layer : Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
H227 Combustible liquid
H315 Causes skin irritation
H319 Causes serious eye irritation
H360 May damage fertility or the unborn child
H371 May cause damage to organs (central nerve)

Precautionary Statements
[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames and other ignition sources.·No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ 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.
P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
P321 Specific treatment (see 4-Response on our website/SDS URL:}
Safety Data Sheets

www.mimaki.co.jp/msds).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)  
<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Flammability</td>
<td>Reactivity</td>
<td>Protective Equipment</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

NFPA Rating (scale 0 – 4)  
<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

CANADIAN WHMIS SYMBOLS: Not applicable

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>55-65</td>
<td>112-36-7</td>
<td>C₈H₁₈O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C₁₀H₂₂O₅</td>
</tr>
<tr>
<td>3</td>
<td>γ -Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C₄H₆O₂</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-5</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobuthyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
<tr>
<td>6</td>
<td>Colorants</td>
<td>&lt;1</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
</tbody>
</table>
### 4. First Aid Measures

Inhalation: IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion: IF exposed or concerned: Call a POISON CENTER/doctor.

IF SWALLOWED: Do not induce vomiting.

Most important symptoms and effects, both acute and delayed:
- Skin: Ink contact with skin may cause irritation, swelling or redness.

Note To Physician: Not necessary

### 5. Fire Fighting Measures

- Flash point: about 71°C (Closed cup)
- Autoflammability: None
- Explosive properties: 1.4~6.9v/v% as dipropylene glycol mono-methyl ether

Extinguishing Media: Water spray, dry chemical, carbon dioxide or, alcohol foam

Unsuitable Extinguishing Media: None

Fire Fighting Instructions: Extinguish to use fire fighting media or plentiful fog water.
- Put protection wear without fail in case of firefighting work.
- Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).
- Do not work in the leeward.
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
- Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders:
- None

Environmental precautions:
- Do not release to sewer, surface or ground water.

Methods and material for containment and cleaning up

Advice on how to contain a spill:
- Use sponges to wipe-up ink.

Advice how to clean-up a spill:
- Rinse area with damp cloth. Place waste in closed container for disposal.
- Wash hands with soap and water.

Any other information:
- Do not dispose of waste to the sewer.

Reference to other sections:
- Please refer SECTION 13 for disposal.

7. Handling and Storage

Handling:
- Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage:
- Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES:
- Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>The 8-Hour TWA Exposure Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
<td>California OELs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33mg/m³</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Exposure Controls

Occupational Exposure Controls

Engineering Controls: Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection: Wear gloves that resist organic solvents and chemicals.

Eye Protection: Wear coverall, chemical goggles and face shield when handling.

Skin Protection: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls: Not available
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: Cyan</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<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>about 71°C (Closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Explosive limits: 1.4~6.9v/v% as γ-Butyrolactone</td>
</tr>
<tr>
<td>Relative Density (ies)</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Greater than 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>758.8 g/L</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

- **Conditions to Avoid**: High and freezing temperatures
- **Stability**: Stable under normal temperature
- **Materials to Avoid**: Oxidizers and explosives
- **Hazardous Reactions / Decomposition Products**: To burn this product may be produce toxic gases.

11. Toxicological Information

- **Acute Toxicity**: Oral LD<sub>50</sub> >2500mg/kg(rats)  
  Dermal LD<sub>50</sub> >2000mg/kg(rats)
- **Eye Irritation**: Mild irritant. (rabbit, OECD 405)
  Diethylene Glycol Diethyl ether : Category 2A (GHS Classification)  
  γ-Butyrolactone : Category 2A (GHS Classification)
- **Skin Irritation**: Mild irritant. (rabbit, OECD 404)
Diethylene Glycol Diethyl ether : Category 2 (GHS Classification)

Skin Sensitization : Non-sensitizer(LLNA, OECD 429)
Mutagenicity : Negative (by Ames Test)
Carcinogenicity : Not meet the criteria for classification according to EU Directive 1999/45/EC
Not contain any substances listed in IARC Monographs (1,2A and 2B)

Reproductive Toxicity : Tetraethylene Glycol Dimethyl Ether : Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure)
: γ -Butyrolactone : Category 2 (central nerve) (GHS Classification)
: Category 3 (drowsiness or dizziness)
: Category 3 (drowsiness or dizziness) (GHS Classification)

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.

Ecotoxicity : Not available
Persistence and Degradability : Not available
Bioaccumulative Potential : Not available
Results of PBT and vPvB assessment : Has not carried out PBT and vPvB assessment
Other Adverse Effects : Not available

13. Disposal Considerations

: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.
14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials : Not Applicable
Sea Transport (IMDG)
Class : Not Applicable
Packing Group (PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable
Marine Pollutant : Not Applicable
Air Transport (ICAO/IATA)
Class : Not Applicable
Packing Group(PG) : Not Applicable
UN Number : Not Applicable
Proper Shipping Name : Not Applicable

15. Regulatory Information

TSCA Section 4(a) : Not regulated
Final Test Rules
Regulated
TSCA Section 5 : Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
Significant New Use Reference: 76FR40850
Rule Regulation Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
proposed Reference: 76FR40850
TSCA Section 8(a) : Not regulated
Preliminary Assessment
Information Rule (PAIR)
TSCA Section 12(b) Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
One-Time Export Reference: TSCA 5 Proposed SNUR
Notification Regulated Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
Reference: TSCA 5 Proposed SNUR
Clean Air Act Section : Diethylene glycol diethyl ether (CAS No. 112-36-7)
112, Hazardous Air Pollutants
EPCRA : Diethylene glycol diethyl ether (CAS No. 112-36-7)
(SARA Title III)
Section 313
California Proposition : Not regulated
65
Others : Please refer to any other federal, state and local regulations.

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.
It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.
Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.
1. **Identification**

<table>
<thead>
<tr>
<th>Property</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name</strong></td>
<td>ES3 ink Cyan</td>
</tr>
<tr>
<td><strong>Order No.</strong></td>
<td>SPC-0440C</td>
</tr>
<tr>
<td><strong>General Use</strong></td>
<td>Ink for ink jet plotter</td>
</tr>
<tr>
<td><strong>Product Description</strong></td>
<td>Solvent pigment ink</td>
</tr>
<tr>
<td><strong>SDS Number</strong></td>
<td>037-S040315</td>
</tr>
<tr>
<td><strong>Manufacture</strong></td>
<td>Mimaki Engineering Co., Ltd.</td>
</tr>
<tr>
<td><strong>Company Name</strong></td>
<td>Company Name</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN</td>
</tr>
<tr>
<td><strong>Telephone No.</strong></td>
<td>+81-268-64-2413</td>
</tr>
<tr>
<td><strong>Importer / Distributor</strong></td>
<td>MIMAKI USA, INC.</td>
</tr>
<tr>
<td><strong>Company Name</strong></td>
<td>MIMAKI USA, INC.</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A.</td>
</tr>
<tr>
<td><strong>Telephone No.</strong></td>
<td>+1-678-730-0100</td>
</tr>
<tr>
<td><strong>Emergency Telephone No.</strong></td>
<td>+81-268-64-2281</td>
</tr>
</tbody>
</table>

2. **Hazards Identification**

[**GHS Classification**]

**Physical Hazards**

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Liquids</td>
<td>Category 4</td>
</tr>
</tbody>
</table>

**Health Hazards**

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity – Oral</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute Toxicity – Dermal</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute Toxicity – Inhalation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin Corrosion / Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Eye Damage / Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Sensitization – Respiratory</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sensitization – Skin</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Toxic to Reproduction</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity</td>
<td>Category 2 (central nerve)</td>
</tr>
<tr>
<td>(Single Exposure)</td>
<td></td>
</tr>
</tbody>
</table>
Safety Data Sheets

Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified

Environmental Hazards
Hazardous to the Aquatic Environment - Acute Hazard: Not classified
Hazardous to the Aquatic Environment - Long Term Hazard: Not classified
Hazardous to the Ozone Layer: Not classified

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

[GHS Label Elements]
Symbol

Signal Word
Danger

Hazard Statements
H227 Combustible liquid
H315 Causes skin irritation
H319 Causes serious eye irritation
H360 May damage fertility or the unborn child
H371 May cause damage to organs (central nerve)

Precautionary Statements
[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames and other ignition sources. No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ 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.
P308+P311 If exposed or concerned: Call a POISON CENTER/ doctor.
P321 Specific treatment (see 4-Response on our website/SDS URL:
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use alcohol-resistant-related fire foam, dry chemical, carbon dioxide, water spray, dry sand for extinguish.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)  
<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

NFPA Rating (scale 0 – 4)  
<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

CANADIAN WHMIS SYMBOLS: Not applicable

### 3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene Glycol Diethyl ether</td>
<td>55-65</td>
<td>112-36-7</td>
<td>C₈H₁₈O₃</td>
</tr>
<tr>
<td>2</td>
<td>Tetraethylene Glycol Dimethyl Ether</td>
<td>10-20</td>
<td>143-24-8</td>
<td>C₁₀H₂₂O₅</td>
</tr>
<tr>
<td>3</td>
<td>γ-Butyrolactone</td>
<td>&lt;20</td>
<td>96-48-0</td>
<td>C₄H₆O₂</td>
</tr>
<tr>
<td>4</td>
<td>Proprietary organic materials</td>
<td>1-10</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Tetraethylene Glycol Monobutyl Ether</td>
<td>1-5</td>
<td>1559-34-8</td>
<td>C₁₂H₂₆O₅</td>
</tr>
<tr>
<td>6</td>
<td>Colorants</td>
<td>1-5</td>
<td>Trade Secret</td>
<td>-</td>
</tr>
</tbody>
</table>
### 4. First Aid Measures

<table>
<thead>
<tr>
<th>Statement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>IF exposed or concerned: Get medical advice/attention. Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen.</td>
</tr>
<tr>
<td><strong>Eye Contact</strong></td>
<td>Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if eye irritation continues. If eye irritation persists, Get medical advice/attention.</td>
</tr>
<tr>
<td><strong>Skin Contact</strong></td>
<td>IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>IF exposed or concerned: Call a POISON CENTER/doctor. IF SWALLOWED: Do not induce vomiting. Most important symptoms and effects, both acute and delayed: Skin: Ink contact with skin may cause irritation, swelling or redness.</td>
</tr>
<tr>
<td><strong>Note To Physician</strong></td>
<td>Not necessary</td>
</tr>
</tbody>
</table>

### 5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flammable Properties</strong></td>
<td>Combustible liquid under Hazard Communication Standard (HCS, U.S.A). Flash point: about 71°C (Closed cup) Autoflammability: None Explosive properties: 1.4~6.9v/v% as dipropylene glycol mono-methyl ether</td>
</tr>
<tr>
<td><strong>Extinguishing Media</strong></td>
<td>Water spray, dry chemical, carbon dioxide or, alcohol foam</td>
</tr>
<tr>
<td><strong>Unsuitable Extinguishing Media</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Fire Fighting Instructions</strong></td>
<td>Extinguish to use fire fighting media or plentiful fog water. Put protection wear without fail in case of firefighting work. Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus). Do not work in the leeward.</td>
</tr>
</tbody>
</table>
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Eye or Skin protection required during clean-up. Use proper ventilation.

For emergency responders: None

Environmental precautions: Do not release to sewer, surface water or ground water.

Methods and material for containment and cleaning up

Advice on how to contain a spill: Use sponges to wipe-up ink.

Advice how to clean-up a spill: Rinse area with damp cloth. Place waste in closed container for disposal.

Wash hands with soap and water.

Any other information: Do not dispose of waste to the sewer.

Reference to other sections: Please refer SECTION 13 for disposal.

7. Handling and Storage

Handling: Obtain SDS (Safety Data Sheet) and printer's manual instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment (see 8-section). Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink ink. Do not dismantle cartridge. Make sure cartridge is dry before insertion into printer housing. Avoid contact with skin, eyes or clothing. In the case of skin contact, wash with soap and water.

Storage: Store locked up. Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store the cartridge with oxidizing agents or explosives.

SPECIFIC USES: Not specified
8. Exposure Controls / Personal Protection

Exposure Limit Values

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>California OELs</th>
<th>The 8-Hour TWA Exposure Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diethylene glycol diethyl ether (CAS No. 112-36-7)</td>
<td>California OELs</td>
<td>5 ppm 33mg/m³</td>
</tr>
</tbody>
</table>

California OELs: California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Exposure Controls

Occupational Exposure Controls

Engineering Controls: Use exhaust ventilation to avoid from exposure.

Personal Protection

Respiratory Protection: An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

Hand Protection: Wear gloves that resist organic solvents and chemicals.

Eye Protection: Wear coverall, chemical goggles and face shield when handling.

Skin Protection: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls

: Not available
9. Physical and Chemical Properties

Appearance
- Physical State : liquid
- Color : Cyan

Odor : Slightly

pH : Not Applicable

Boiling Point / Boiling Range : Not available
Melting Point / Melting Range : Not available
Decomposition Temperature : Not available

Flash Point : about 71°C (Closed cup)
Auto ignition temperature : Not available

Explosive Properties : Explosive limits: 1.4~6.9v/v% as γ-Butyrolactone

Relative Density : Not available
Solubility (ies) : Soluble
Viscosity : Not available
Vapor Density : Greater than 1 (air = 1)
Evaporation Rate : Not available
VOC : 740.9 g/L

10. Stability and Reactivity

Conditions to Avoid : High and freezing temperatures
Stability : Stable under normal temperature

Materials to Avoid : Oxidizers and explosives

Hazardous Reactions / Decomposition Products : To burn this product may be produce toxic gases.

11. Toxicological Information

Acute Toxicity : Oral LD$_{50}$ >2500mg/kg(rats) Dermal LD$_{50}$ >2000mg/kg(rats)

Eye Irritation : Mild irritant. (rabbit, OECD 405)
Diethylene Glycol Diethyl ether : Category 2A (GHS Classification)
γ-Butyrolactone : Category 2A (GHS Classification)

Skin Irritation : Mild irritant. (rabbit, OECD 404)
Diethylene Glycol Diethyl ether : Category 2 (GHS Classification)

Skin Sensitization : Non-sensitizer(LLNA, OECD 429)

Mutagenicity : Negative (by Ames Test)

Carcinogenicity : Not meet the criteria for classification according to EU Directive 1999/45/EC

Not contain any substances listed in IARC Monographs (1,2A and 2B)

Reproductive Toxicity : Tetraethylene Glycol Dimethyl Ether : Category 1B (GHS Classification)

Specific Target Organ Toxicity (Single Exposure)

: γ -Butyrolactone : Category 2 (central nerve) (GHS Classification)

Category 3 (drowsiness or dizziness) (GHS Classification)

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.

Ecotoxicity : Not available

Persistence and Degradability : Not available

Bioaccumulative Potential : Not available

Results of PBT and vPvB assessment : Has not carried out PBT and vPvB assessment

Other Adverse Effects : Not available

13. Disposal Considerations

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Comply with all USA, national and local regulations.

Do not dump this product into sewers, on the ground or into any body of water.
14. Transport Information

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

Us Department of Transportation (DOT)
Hazardous Materials : Not Applicable
Sea Transport (IMDG)
   Class : Not Applicable
   Packing Group (PG) : Not Applicable
   UN Number : Not Applicable
   Proper Shipping Name : Not Applicable
   Marine Pollutant : Not Applicable
Air Transport (ICAO/IATA)
   Class : Not Applicable
   Packing Group(PG) : Not Applicable
   UN Number : Not Applicable
   Proper Shipping Name : Not Applicable

15. Regulatory Information

TSCA Section 4(a) : Not regulated
Final Test Rules Regulated
TSCA Section 5 : Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
Significant New Use Reference: 76FR40850
Rule Regulation Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
   proposed Reference: 76FR40850
TSCA Section 8(a) : Not regulated
Preliminary Assessment
Information Rule (PAIR)
TSCA Section 12(b) Ingredient : Diethylene glycol diethyl ether (CAS No. 112-36-7)
One-Time Export Reference: TSCA 5 Proposed SNUR
Notification Regulated Ingredient : Tetraethylene glycol dimethyl ether (CAS No. 143-24-8)
   Reference: TSCA 5 Proposed SNUR
Clean Air Act Section : Diethylene glycol diethyl ether (CAS No. 112-36-7)
112. Hazardous Air Pollutants

EPCRA (SARA Title III) Section 313
California Proposition 65
Others

: Diethylene glycol diethyl ether (CAS No. 112-36-7)
: Not regulated
: Please refer to any other federal, state and local regulations.

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.
It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.
Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.