



Product Name: ES3 ink Silver

SDS No. 037-S042027

First issue: 2017/04/13

Revised: 2024/06/27

## Safety Data Sheets

### 1. Identification

Product Name : ES3 ink Silver  
Order No. : SPC-0433SI  
General Use : Ink for ink jet printer  
Product Description : Solvent pigment ink  
SDS Number : 037-S042027  
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 Australia  
Company Name : MIMAKI AUSTRALIA PTY LTD.  
Address : Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia  
Telephone No. : + 61-2-8036-4500  
Emergency Telephone No. : +61 2 8014 4558 (within Australia only)  
18000 74234 (within Australia only)  
+65 3158 1074

### 2. Hazards Identification

#### [GHS Classification]

##### Physical Hazards

Flammable Liquids : Category 4

##### Health Hazards

Skin Corrosion / Irritation : Category 2

Eye Damage / Irritation : Category 2

Toxic to Reproduction : Category 1

Specific Target Organ Toxicity : Category 2 (central nerve)  
(Single Exposure)

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

#### [GHS Label Elements]

# Safety Data Sheets

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.

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 = 2

Flammability= 2

Reactivity = 1

Protective Equipment = C

2	Health
2	Flammability
1	Reactivity
C	Protective Equipment

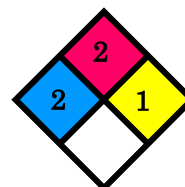
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 2

Instability = 1

Special = 0



## Safety Data Sheets

CANADIAN WHMIS SYMBOLS : Not applicable

### 3. Composition / Information on Ingredients

#### Mixtures

Chemical Name	Wt%	CAS No.	Chemical Formula
Bis(2-ethoxyethyl)ether	65-75	112-36-7	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>
Bis(2-(2-methoxyethoxy)ethyl) ether	10-20	143-24-8	C <sub>10</sub> H <sub>22</sub> O <sub>5</sub>
gamma-Butyrolactone	5-15	96-48-0	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>
Colorants	1-5	Trade Secret	-
Tetraethylene Glycol Monobutyl Ether	1-5	1559-34-8	C <sub>12</sub> H <sub>26</sub> O <sub>5</sub>

### 4. First Aid Measures

Skin Contact	: Immediately take off all contaminated clothing. Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Wash thoroughly the body (shower or bath). Remove contaminated clothing immediately and dispose off safely. After contact with skin, wash immediately with soap and plenty of water.
Eye Contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion	: Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
Inhalation	: Remove casualty to fresh air and keep warm and at rest.
Most important symptoms and effects, both acute and delayed	: none
Indication of any immediate medical attention and special	: In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Treatment: None

## Safety Data Sheets

treatment needed

### 5. Fire Fighting Measures

Flammable Properties : Flash point : 71°C / 160° F

Extinguishing Media : CO2 or Dry chemical fire extinguisher.

Unsuitable Extinguishing Media : None in particular.

Special hazards arising from the substance or mixture : Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.

Advice for firefighters : Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

### 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Wear personal protection equipment.  
Remove persons to safety.  
See protective measures under point 7 and 8.

Environmental precautions: : Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

Methods and material for containment and cleaning up : Wash with plenty of water.

Reference to other sections : See also section 8 and 13

### 7. Handling and Storage

# Safety Data Sheets

Precautions for safe handling	<p>: Avoid contact with skin and eyes, inhalation of vapours and mists.</p> <p>Don't use empty container before they have been cleaned.</p> <p>Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.</p> <p>Contaminated clothing should be changed before entering eating areas.</p> <p>Do not eat or drink while working.</p> <p>See also section 8 for recommended protective equipment.</p>
Conditions for safe storage, including any incompatibilities	<p>: Always keep the containers tightly closed.</p> <p>Keep away from food, drink and feed.</p> <p>Incompatible materials: None in particular.</p> <p>Instructions as regards storage premises: Adequately ventilated premises.</p>
Specific end use(s)	: None in particular

## 8. Exposure Controls / Personal Protection

Control parameters	<p>: <b>aluminium powder (stabilised) - CAS: 7429-90-5</b></p> <p>OEL Type: ACGIH - LTE(8h): 1 mg/m<sup>3</sup> - Notes: (R), A4 - Pneumoconiosis, LRT irr, neurotoxicity</p>
DNEL Exposure Limit Values	<p>: <b>Bis(2-ethoxyethyl) ether - CAS: 112-36-7</b></p> <p>Worker Industry: 5.96 mg/m<sup>3</sup> - Exposure: Human Inhalation</p> <p>Worker Industry: 1.71 mg/kg/day - Exposure: Human Oral</p> <p>Worker Professional: 50.05 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects</p> <p>Worker Professional: 3.43 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects</p> <p>: <b>Bis(2-(2-methoxyethoxy)ethyl) ether - CAS: 143-24-8</b></p> <p>Worker Professional: 22 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects</p> <p>Worker Professional: 3 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects</p>
PNEC Exposure Limit Values	<p>: <b>Bis(2-ethoxyethyl) ether - CAS: 112-36-7</b></p> <p>Target: Fresh Water - Value: 0.001 mg/l</p> <p>Target: Freshwater sediments - Value: 0.007 mg/kg</p> <p>Target: Marine water - Value: 0.0001397 mg/l</p>

# Safety Data Sheets

Target: Marine water sediments - Value: 0.0006778 mg/kg

Target: Air - Value: 0.000001105 mg/m<sup>3</sup>

: **Bis(2-(2-methoxyethoxy)ethyl) ether - CAS: 143-24-8**

Target: Fresh Water - Value: 32 mg/l

Target: Freshwater sediments - Value: 127 mg/kg

Target: Marine water - Value: 3.2 mg/l

Target: Marine water sediments - Value: 12.7 mg/kg

Target: Microorganisms in sewage treatments - Value: 500 mg/l

Legend:

DNEL: Derived No Effect Level, PNEC: Predicted No Effect Concentration

## Exposure Controls

### Occupational Exposure Controls

Engineering Controls : Use exhaust ventilation to avoid from exposure.

Eye protection : Not needed for normal use. Anyway, operate according good working practices.

Protection for skin : Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands : Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection : Not needed for normal use.

Thermal Hazards : none

Environmental : none

exposure controls

## 9. Physical and Chemical Properties

[Information on basic physical and chemical properties]

Appearance - Physical State : liquid

- Color : Silver

Odor : Slightly

Odour threshold : No data available

pH : Not Relevant

Melting point / freezing point : No data available

Initial boiling point and boiling range : No data available

Solid/gas flammability : No data available

Upper/lower flammability or explosive limits : No data available

## Safety Data Sheets

Vapour density	: No data available
Flash point	: 71 °C / 160 ° F (Cleveland open cup method, JIS K2265-4)
Evaporation rate	: No data available
Vapour pressure	: No data available
Relative density	: 0.9 - 1.1 (at(20 °C)
Solubility in water	: Slightly soluble
Solubility in oil	: No data available
Partition coefficient (n-octanol/water)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: < 5 mPa s (at 20 °C)
Explosive properties	: No data available
Oxidizing properties	: No data available
[Other information]	
Miscibility	: No data available
Fat Solubility	: No data available
Conductivity	: No data available

### 10. Stability and Reactivity

Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: none
Conditions to avoid	: Stable under normal conditions.
Incompatible materials	: None in particular.
Hazardous decomposition products	: none

### 11. Toxicological Information

[Information on toxicological effects]

Toxicological information of the mixture

germ cell mutagenicity : Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli Negative

Toxicological information of the main substances found in the mixture

## Safety Data Sheets

### Bis(2-ethoxyethyl) ether - CAS: 112-36-7

acute toxicity : Test: LD50 - Route: Oral - Species: Rat = 4970 mg/kg - Notes: OECD TG No.401

serious eye : Test: Eye Irritant - Species: Rabbit Non-irritant - Notes: OECD TG

damage/irritation No.405

### Bis(2-(2-methoxyethoxy)ethyl) ether - CAS: 143-24-8

acute toxicity : Test: LD50 - Route: Oral - Species: Rat = 3850 mg/kg - Notes: OECD Guideline 401 (Acute Oral Toxicity)

skin : Test: Skin Irritant - Species: Rabbit Non-irritant - Notes: OECD

corrosion/irritation Guideline 404 (Acute Dermal Irritation / Corrosion)

serious eye : Test: Eye Irritant - Species: Rabbit Non-irritant - Notes: OECD

damage/irritation Guideline 405 (Acute Eye Irritation / Corrosion)

germ cell : Test: Mutagenesis - Species: Salmonella Typhimurium and

mutagenicity Escherichia coli Negative - Notes: OECD Guideline 471 (Bacterial Reverse Mutation Assay)

reproductive toxicity : Test: Reproductive Toxicity - Route: Oral - Species: Rat reprotoxic category 3 -Notes: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

Substance(s) listed on the IARC Monographs

: gamma-Butyrolactone - Group 3.

## 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.

Toxicity : **Bis(2-ethoxyethyl) ether - CAS: 112-36-7**

Aquatic acute toxicity

Endpoint: LC50 - Species: Fish > 10000 mg/l - Duration h: 96

Endpoint: LC50 - Species: Daphnia = 6600 mg/l - Duration h: 96

: **Bis(2-(2-methoxyethoxy)ethyl) ether - CAS: 143-24-8**

Aquatic acute toxicity

Endpoint: EC50 - Species: Daphnia = 7467 mg/l - Duration h: 48 -  
Notes: OECD

Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Endpoint: ErC50 - Species: Algae = 8996 mg/l - Duration h: 72 -  
Notes: OECD



## Safety Data Sheets

### Guideline 201 (Alga, Growth Inhibition Test)

Persistence and	: No data available
Degradability	
Bioaccumulative	: No data available
Potential	
Mobility in soil	: No data available
Results of PBT and	: vPvB Substances: None - PBT Substances: None
vPvB assessment	
Other Adverse Effects	: none.

### 13. Disposal Considerations

Waste treatment	: Recover if possible. In so doing, comply with the local and national
methods	regulations currently in force.

### 14. Transport Information

Check a thing without a leak in a container.	
Perform prevention of collapse of cargo surely.	
UN number	: Not classified as dangerous in the meaning of transport regulations.
UN proper shipping	: No data available.
name	
Transport hazard	: No data available.
class(es)	
Packing group	: No data available.
Environmental hazards	: No data available.
Special precautions for	: No data available.
user	
Transport in bulk	: No data available.
according to Annex II of	
MARPOL73/78 and the	
IBC Code	

### 15. Regulatory Information

[EU Information]

: Dir. 98/24/EC (Risks related to chemical agents at work)

# Safety Data Sheets

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) 2015/830

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII

Regulation (EC) 1907/2006 (REACH) and subsequent modifications

Restrictions related : Restriction 3

to the product Restriction 40

Restrictions related : No restriction

to the substances

contained

Where applicable, : Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.

refer to the following Regulatory provisions Regulation (EC) nr 648/2004 (detergents).

1999/13/EC (VOC directive)

:

Provisions related to : No data available  
directives

82/501/EC(Seveso),

96/82/EC(Seveso II)

## [USA Information]

TSCA - Toxic : TSCA inventory: all the components are listed on the TSCA  
Substances Control inventory.

Act TSCA listed substances: Bis(2-ethoxyethyl) ether is listed in TSCA  
Section 5a - SNUR, Section 12b.

SARA - Superfund : Section 302 – Extremely Hazardous Substances: no substances  
Amendments and listed.

Reauthorization Act Section 304 – Hazardous substances: no substances listed.

Section 313 – Toxic chemical list: Bis(2-ethoxyethyl) ether.

CAA - Clean Air Act : CAA listed substances:

Bis(2-ethoxyethyl) ether is listed in CAA Section 111, Section 112.



Product Name: ES3 ink Silver  
SDS No. 037-S042027  
First issue: 2017/04/13  
Revised: 2024/06/27

## Safety Data Sheets

California Proposition : Substance(s) listed under California Proposition 65: None.  
65

### [Canada Information]

WHMIS Controlled : Not applicable (Manufactured article)  
Product

### [Australia Information]

Statement of : Classified as Toxic and Irritant according to criteria of NOHSC  
Hazardous Nature

### [New Zealand Information]

Hazardous Substances : Not regulated  
and New Organisms  
Act 1996

Chemical safety : No.  
assessment

## 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.