

# Safety Data Sheets

## 1. Identification

Product Name : ES3 ink Yellow  
Order No. : SPC-0440Y  
General Use : Ink for ink jet printer  
Product Description : Solvent pigment ink  
SDS Number : 037-S042023  
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 1

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]

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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.
- 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)

Health = 2

Flammability= 2

Reactivity = 1

Protective Equipment = C

②	Health
②	Flammability
①	Reactivity
C	Protective Equipment

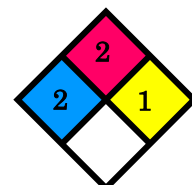
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 2

Instability = 1

Special = 0



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CANADIAN WHMIS SYMBOLS : Not applicable

## 3. Composition / Information on Ingredients

Mixtures

Chemical Name	Wt%	CAS No.	Chemical Formula
Bis(2-ethoxyethyl)ether	55-65	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	<20	96-48-0	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>
Colorant (Nickel compound)	1-5	Trade Secret	-
Tetraethylene Glycol Monobuthyl 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	: After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Protect uninjured eye.
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	: In case of accident or unwellness, seek medical advice immediately

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immediate medical attention and special treatment needed (show directions for use or safety data sheet if possible).  
Treatment: None

### 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.

Media

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

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### 7. Handling and Storage

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

### 8. Exposure Controls / Personal Protection

Control parameters	: No occupational exposure limit available
DNEL Exposure Limit Values	: <b>Bis(2-ethoxyethyl) ether - CAS: 112-36-7</b> Worker Industry: 5.96 mg/m <sup>3</sup> - Exposure: Human Inhalation Worker Industry: 1.71 mg/kg/day - Exposure: Human Oral Worker Professional: 50.05 mg/m <sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects Worker Professional: 3.43 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects : <b>Bis(2-(2-methoxyethoxy)ethyl) ether - CAS: 143-24-8</b> Worker Professional: 22 mg/m <sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects Worker Professional: 3 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
PNEC Exposure Limit Values	: <b>Bis(2-ethoxyethyl) ether - CAS: 112-36-7</b> Target: Fresh Water - Value: 0.001 mg/l Target: Freshwater sediments - Value: 0.007 mg/kg Target: Marine water - Value: 0.0001397 mg/l Target: Marine water sediments - Value: 0.0006778 mg/kg

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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 : Use close fitting safety goggles, don't use eye lens.

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 exposure controls : none

## 9. Physical and Chemical Properties

[Information on basic physical and chemical properties]

Appearance - Physical State : liquid

- Color : Yellow

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

Vapour density : No data available

Flash point : 71 °C / 160 ° F (Cleveland open cup method, JIS)

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	K2265-4)
Evaporation rate	: No data available
Vapour pressure	: No data available
Relative density	: 0.9 - 1.1
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
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

acute toxicity	: Test: LD50 - Route: Oral - Species: Rat > 2500 mg/kg
skin corrosion/irritation	: Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg
serious eye	: Test: Skin Irritant - Species: Rabbit Mild irritant
	: Test: Eye Irritant - Species: Rabbit Corrosive

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damage/irritation

respiratory or skin : Test: Skin Sensitisation - Route: LLNA - Species: Mouse

sensitisation Non-sensitiser

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

mutagenicity Escherichia coli Negative

Toxicological information of the main substances found in the mixture

### **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.

Colorant (Nickel compound) - Group 1.

## 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



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: 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

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.

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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)  
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 to the product : Restriction 3

Restrictions related to the substances contained : No restriction

Where applicable, refer to the following regulatory provisions : Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.  
Regulation (EC) nr 648/2004 (detergents).  
1999/13/EC (VOC directive)

:  
Provisions related to directives : No data available  
82/501/EC(Seveso),  
96/82/EC(Seveso II)

#### [USA Information]

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

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Act	TSCA listed substances: Bis(2-ethoxyethyl) ether is listed in TSCA Section 5a - SNUR, Section 12b.
SARA - Superfund Amendments and Reauthorization Act	: Section 302 – Extremely Hazardous Substances: no substances listed. 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. Colorant (Nickel compound) is listed in CAA Section 112.
California Proposition 65	: Substance(s) listed under California Proposition 65: Colorant (Nickel compound) - Listed as carcinogen.
[Canada Information]	
WHMIS Controlled Product	: Not applicable (Manufactured article)
[Australia Information]	
Statement of Hazardous Nature	: Classified as Toxic and Irritant according to criteria of NOHSC
[New Zealand Information]	
Hazardous Substances and New Organisms Act 1996	: Not regulated
Chemical safety assessment	: No.

### 16. Other Information

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