

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

1. Product and Company Identification

Product Name	: ES3 ink Silver
Product Code	: SPC-0433 Si
General Use	: Ink for ink jet plotter
Product Description	: Solvent pigment ink
MSDS Number	: 031-35S04SC
Manufacture	
Company Name	: Mimaki Engineering Co., Ltd
Address	: 2182-3 Otsu, Shigeno, Tomi-shi, Nagano 389-0512 Japan
Telephone No.	: +81-268-64-2413
Importer/Distributor Established in USA	
Company Name	: MIMAKI USA. INC.
Address	: 150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A
Telephone No.	: 1-678-730-0100
Emergency Telephone No.	: +81-268-64-2413

2. Hazards Identification

Emergency Overview	: This ink does not meet the criteria for dangerous classification according to EU Directive 1999/45/EC. Ink component is a silver liquid that may cause eye irritation. Avoid contact with eyes or clothing. In the case of skin contact, wash with soap and water.
Potential Health Effects	
Inhalation	: Intentional exposure to ink vapors (mist) will cause respiratory irritation.
Eye	: Ink contact with eye may be mildly irritating.
Skin	: Ink contact with skin may cause irritation, swelling or redness.
Ingestion	: May cause upset stomach.

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3. Composition / Information On Ingredients

No	Chemical Name	Wt%	CAS No.	Chemical Formula
1	Colorant	1-5	Trade Secret	-
2	Diethylene glycol diethyl ether	65-75	112-36-7	C ₈ H ₁₈ O ₃
4	gamma-butyrolactone	5-15	96-48-0	C ₄ H ₆ O ₂
5	Tetraethylene glycol dimethyl ether	10-20	143-24-8	C ₁₀ H ₂₂ O ₅
6	Tetraethylene glycol monobutyl ether	1-5	1559-34-8	C ₁₂ H ₂₆ O ₅
7	Additives	< 1	Trade Secret	-

4. First Aid Measures

Inhalation	: Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen. Seek immediate medical attention.
Eye Contact	: Immediately flush with room temperature, low pressure, clean water for at least 15 minutes. Seek medical attention if eye irritation continues.
Skin Contact	: Wash surface areas with soap and water. Wash soiled clothing before rewearing. Consult a physician if irritation continues.
Ingestion	: Seek medical advice; and attention if stomach continues to be upset.

5. Fire Fighting Measures

Flammability	: Combustible liquid under Hazard Communication Standard (HCS, U.S.A). See Section 9 for Flash Point.
Extinguishing Media	: Dry chemical, carbon dioxide or, alcohol foam Do not use water as extinguishing media.
Fire Fighting Instructions	: Extinguish to use fire fighting media Put protection wear without fail in case of fire fighting work; do not work in the leeward.

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6. Accidental Release Measures

- Personal Precautions : Eye or Skin protection required during clean-up. Use proper ventilation.
- Environmental precautions : Do not release to sewer, surface- or ground-water.
- Methods for cleaning up : If a spill occurs, use sponges to wipe-up ink, then rinse area with damp cloth. Place waste in closed container for disposal. Do not dispose of waste to the sewer. Wash hands with soap and water.

7. Handling And Storage

- Handling : Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. 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.
- Storage : Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not dismantle cartridge. Do not store cartridges with oxidizing with agents or explosives.
- Specific use(s) : Not specified

8. Exposure Controls / Personal Protection

- Exposure Limit Values Diethylene glycol diethyl ether (CAS No. 112-36-7)
California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)
The 8-Hour TWA Exposure Value : 5ppm
The 8-Hour TWA Exposure Value : 33 mg/m³
- Exposure Controls
Occupational Exposure Controls : Application of collective protection measures at source: Proper ventilation.
- Respiratory protection : Not required under suitable use as setting the cartridge on the

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	printer.
Hand Protection	: Not required under suitable use as setting the cartridge on the printer.
Eye Protection	: Not required under suitable use as setting the cartridge on the printer.
Skin Protection	: Not required under suitable use as setting the cartridge on the printer.
Environmental Exposure Controls	: Not established

9. Physical And Chemical Properties

Appearance	- Physical state	: liquid
	- Color	: Silver
Odor		: Slightly
pH		: Not Applicable
Boiling Point / Boiling Range		: Not data available
Melting Point / Melting Range		: Not available
Flash Point		: about 71 degree C (Close cup)
Flammability(solid, gas)		: Not available
Explosive Properties		: 1.4~6.9 v/v % as Gamma-butyrolactone
Oxidizing Properties		: None
Solubility		: Not data available
Water solubility		: Soluble
Partition coefficient : n-octanol/water		: No date available
Viscosity		: No data available
Vapor density		: Greater than 1 (air=1)
Evaporation rate		: No data available

10. Stability And Reactivity

Stability	: Stable under normal temperature.
Hazardous polymerization	: No data available
Conditions to avoid	: High and freezing temperatures.

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Materials to avoid : Oxidizers and explosives.

Hazardous Reactions/ : Not available.

Decomposition Products

11. Toxicological Information

Routes Of Overexposure : Eyes, skin, inhalation, and oral

Acute Health Hazards

: Overexposure of eye surface to ink may be mildly irritating.

: Overexposure of skin to ink contact may cause irritation and in some people swelling and redness

: Intentional inhalation overexposure to ink vapors may result in respiratory tract irritation and anesthesia.

: Intentional or accidental oral ingestion may cause an upset stomach.

Chronic health Hazards : None known

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)

Toxicity Data Oral LD50 : Not meet the criteria for classification according to EU Directive 1999/45/EC

Dermal LD50 : Not meet the criteria for classification according to EU Directive 1999/45/EC

Inhalant LC50 : Not meet the criteria for classification according to EU Directive 1999/45/EC

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

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

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

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12. Ecological Information

Ecotoxicity	: No data available on the adverse effects of this ink on the environment
Mobility	: No data available on the adverse effects of this ink on the environment
Persistence And Degradability	: No data available on the adverse effects of this ink on the environment
Bioaccumulative Potential	: No data available on the adverse effects of this ink on the environment
Result of PBT assessment	: Has not carried out PBT assessment
Other Adverse Effects	: No data available

13. Disposal Considerations

Disposal should be in accordance with federal, state, and local requirement.

14. Transport Information

UN Class/UN Number	: Not applicable
DOT, IMO, or IATA	: Not hazardous classification

15. Regulatory Information

US Information

TSCA Section 4(a) Final Test Rules Regulated	: Not regulated
TSCA Section 8(a) Preliminary Assessment Information Rule(PAIR)	: Not regulated
TSCA Section 8(a) Inventory Update Rule	
Subject to a Special Regulatory Action under TSCA (2002 EPA Instructions, App.B)	
:	: Not regulated
TSCA Section 12(b)One-Time Export Notification Regulated	: Not regulated
California Proposition 65	: Not regulated

Canada Information

WHMIS Controlled Product	: Not applicatble (Manufactured article)
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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.

Revision history

Version	Date	Content
1.0	2010/08/06	First issue