

Material Safety Data Sheets

1. Product and Company Identification

Product Name	: SS21 ink Light Cyan
Product Code	: SPC-0501LC
General Use	: Ink for ink jet plotter
Product Description	: Solvent pigment ink
MSDS Number	: 031-33S083C
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	: 140 Satellite Boulevard NE Suite B-2 Suwanee, GA 30024
Telephone No.	: 1-678-730-0100
Emergency Telephone No.	: +81-268-64-2413

2. Hazards Identification

Emergency Overview	: Combustible liquid. Acute toxic substance. Stagnant vapor may cause organic solvent poisoning. Do not inhale. Inhalation may cause any of the following symptoms: dizziness, headache, the stimulation of eyes, skin and respiratory tract.
Potential Health Effects	
Inhalation	: Harmful by inhalation. Irritating to respiratory system.
Eye Contact	: Irritating to eyes.
Skin Contact	: Harmful in contact with skin. Irritating to skin.
Ingestion	: Harmful: may cause lung damage if swallowed.
Carcinogens	: No ingredients are listed by OSHA, IARC, or NTP as known or suspected carcinogens.
Potential Environmental Effects	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Medical conditions	: No medical conditions are known to be aggravated by exposure to SS21ink.

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3. Composition / Information On Ingredients

No	Chemical Name	Wt%	CAS No.	Chemical Formula
1	Diethylene glycol derivative	75.0~85.0	Trade Secret	Trade Secret
2	Lactone compound	10.0~20.0	Trade Secret	Trade Secret
3	Solvent naphtha(petroleum),light arom.	0.1~1.0	64742-95-6	-
4	Benzene, 1,3,5-trimethyl-	0.01~0.1	108-67-8	C ₉ H ₁₂
5	Benzene, 1,2,4-trimethyl-	0.05~0.2	95-63-6	C ₉ H ₁₂
6	Benzene, (1-methylethyl)- (Cumene)	0.005~0.1	98-82-8	C ₉ H ₁₂
7	Phthalocyanine blue	0.1~1.0	Trade Secret	Trade Secret
8	Vinylchloride-Vinylacetate Copolymer	1.0~5.0	9003-22-9	-(CH ₂ CHCl) _n - (CH ₂ CHOCOCH ₃) _m -
9	Diol type inhibitor	0.1~1.0	Trade Secret	Trade Secret

OSHA Hazardous Components : Components 4, 5 and 6 are hazardous components.
(29 CFR 1910. 1200)

4. First Aid Measures

- Inhalation** : If inhaled, immediately remove to fresh air and keep warm and calm. If breathing irregularly or not breathing, give artificial respiration. Keep from swallowing vomit.
Consult a doctor immediately. If inhaled and feeling sick, remove to fresh air, keep warm and calm and consult a doctor.
- Eye Contact** : Flush eyes with plenty of water for at least 15 minutes.
Consult a doctor immediately.
- Skin Contact** : Immediately remove from skin with cloth.
Flush thoroughly with plenty of water and soap or skin detergent.
Do not use solvent or thinner.
Consult a doctor in case of change of appearance or ache
- Ingestion** : If swallowed, keep calm and consult a doctor immediately.
Keep from swallowing vomit.
- Protection To First-Aiders** : Wear a tool for appropriate protection. Ventilate.
- Note To Physician** : Treatment may vary with condition of victim and specifics of incident.

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5. Fire Fighting Measures

Flammable Properties	: The harmful gas such as carbon monoxide or the low molecule monomer occurs by combustion. Flash point: 71.1 degree C Ignition point: 169 degree C Flammable point: 2.2% to 33.0%
Extinguishing Media	: CO2, foam, powder, dry sand. Never splash water.
Fire Fighting Instructions	: Use proper protection (heat-resisting clothes, etc.). Promptly remove flammables.

6. Accidental Release Measures

Personal Precautions	: Avoid contact with eyes. Do not rub eyes with hands during cleanup. No special precautions for dermal contact are needed. Wash hands thoroughly after cleaning up spill or leak.
Land Spill	: Use proper protection (gloves, masks, aprons, goggles, etc.). If Collect spills in a sealing container and remove to safe place. Dispose of waste according to legal instructions. Promptly remove ignitable, hot, or flammable items. Prepare proper fire extinguishers for accidental ignition. Use plastic or other equipment to prevent sparks during recovery operation. Use dry sand, dirt or other nonflammable absorber.
Water Spill	: Avoid discharge to rivers and environmental effects.

7. Handling And Storage

Handling	: Use proper protection (gloves, masks, aprons, goggles, etc.). Handle in well-ventilated area. Prohibit use of fire, sparks or heat source. Ground equipment against electrostatics and use explosion-proof electric equipment. Use spark-proof tools. Keep used cloths, waste paints or spray dusts in water until disposal.
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Use local exhaust system and proper protection if working in closed area.

Storage

: Keep from sunlight.

Store in well-ventilated area.

Keep from open fire or heat source.

8. Exposure Controls / Personal Protection

Exposure Limit Values

No	Chemical Name		TWA	STEL	Ceiling	Skin	SEN
1	Benzene, 1,3,5-trimethyl-	OSHA PEL	N.E.	N.E.	N.E.	N.E.	N.E.
		ACGIH TLV	25ppm	N.E.	N.E.	N.E.	N.E.
2	Benzene, 1,2,4-trimethyl-	OSHA PEL	N.E.	N.E.	N.E.	N.E.	N.E.
		ACGIH TLV	25ppm	N.E.	N.E.	N.E.	N.E.
3	Benzene, (1-methylethyl)-	OSHA PEL	50ppm	N.E.	N.E.	N.E.	N.E.
		ACGIH TLV	50ppm	N.E.	N.E.	N.E.	N.E.

Exposure Controls

Occupational Exposure Controls

Engineering Controls

: Use explosion-proof handling equipment.

Use exhaust system to prevent vapor build-up

Ground transporting, scooping, agitating or other liquid handling equipment.

Keep heat or fire sources from handling area.

If working indoors, use automatic coating machine or other proper equipment to protect workers from direct exposure or use local exhaust system to protect workers from exposure.

Personal Protection

Respiratory Protection



: Wear gas masks for organic gases.

Wear ventilation masks when working in closed area.

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.

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Hand Protection

: Wear gloves that resist organic solvents and chemicals.



Gloves

Eye Protection

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



Face Shield



Safety Glasses

Skin Protection

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



Protective Apron



Boots



Full Suit

Environmental Exposure Controls

: Not available

9. Physical And Chemical Properties

Appearance	- Physical state	: liquid
	- Color	: Light Cyan
Odor		: Slight solvent odor
pH		: Not applicable
Boiling Point / Boiling Range		: 176°C or higher
Melting Point / Melting Range		: Not available
Flash Point		: 71.1 degree C
Auto-Ignition Temperature		: 169 degree C
Flammability(solid, gas)		: Not Applicable
Explosive Properties		: Flammable point: 2.2% to 33.0%
Vapour Pressure		: Less than 133Pa(20 degree C)
Specific Gravity		: 0.964±0.01(20 degree C)
Solubility		: Not available
Water solubility		: Not available
Viscosity		: 3.6±0.3mPa.s(20 degree C)
Vapour density		: Not available

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VOC : 924.9 g/L

10. Stability And Reactivity

Conditions To Avoid : Excessive heat and cold. Sparks. Ignition sources. Direct sunlight.
High humidity.

Stability : Stable

Materials To Avoid : Strong acid. Strong bases.

Hazardous Reactions/ : Will not occur.

Decomposition Products : To burn this product may be produce toxic gases such as CO and low-molecular-weight monomers.

11. Toxicological Information

Acute Toxicity : Oral Diethylene glycol derivative LD50 rat 6500 mg/kg
Lactone compound LD50 rat 1540 mg/kg
Benzene, 1,2,4-trimethyl- LD50 rat 5000 mg/kg
Benzene, (1-methylethyl)- LD50 rat 1400 mg/kg
: Dermal Benzene, (1-methylethyl)- LD50 rab 12300 mg/kg
: Inhalation Benzene, 1,3,5-trimethyl- LC50 rat 24g/m³
Benzene, 1,2,4-trimethyl- LC50 rat 18g/m³
Benzene, (1-methylethyl)- LC50 rat 8000ppm
LC50 rab 24700ppm

Eye Irritation : Lactone compound
Irritating to eyes. (rabbit eyes, OECD Guideline 405)

Skin Irritation : Diethylene glycol derivative P.I.I 2.5 (Draiza)

Sensitization : Not available

Mutagenicity : Not available

Carcinogenicity : EU Category : 2 (Solvent naphtha (petroleum), light arom.)
Substances which should be regarded as if they are carcinogenic to man.

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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	: Not Available
Degradability	
Bioaccumulative	: Not Available
Potential	
Other Adverse Effects	: Not Available

13. Disposal Considerations

: Have waste liquids, containers and other materials disposed of by licensed industrial waste contractors.

Keep waste liquids from flushing containers, machines or other equipment from flowing directly to the ground or drainage.

Dispose of wastes from drainage, combustion, etc, in compliance with laws and regulations on waste disposal or cleaning, or have them disposed of by contractors.

To avoid harmful gases, do not use incinerators without flushing systems to burn wastes and other materials.

Comply with all EU, 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) : No classification assigned.

Air Transport(ICA0/IATA) : No classification assigned.

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15. Regulatory Information

OSHA Status	: Not Applicable
TSCA Status	: All components on TSCA INVENTORY.
Cercla Reportable	: RCRA U waste U055
Quantity (40 CFR 117, 302)	CERCLA RQ5000
SARA Title3	
Section 302 (40 CFR 355)	: Benzen,1,3,5-trimethyl- Benzen,1,2,4-trimethyl- Benzen,(1-trimethyl)- (Cumene)
Section 311/312 (40 CFR 370)	: No data
Section 313 (40 CFR 372)	: 1,2,4-trimety- Cumen
SARA 110	: Benzen,(1-trimethyl)- (Cumene)
OECD	: Solvent naphtha, (petroleum), light arom
HPV chemicals	SIDS charge country; USA, progress situation; SIAR Phase : Benzene, 1,3,5-trimethul- SIDS charge country; USA, progress situation; SIAR Phase : Benzene, 1,2,4-trimethyl- SIDS charge country; USA, progress situation; SIAR Phase : Cumen SIDS charge country; USA and Spain, progress situation; Post-SIDS Phase
Others	: Please refer to any other federal, state and local regulations.

16. Other Information

References	<ol style="list-style-type: none"> 1) "Raw material data base" Redacted by Japan Paint Manufacturers Association 2) "Solvent pocketbook" by Ohmsha, Ltd. 3) First-aid manual for disaster prevention of dangerous goods 4) International Chemical Safety Cards
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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 dose not relate to use in combination with any other material or process.

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Revision history

Version	Date	Content
1.0	2007/7/31	First issue