



Safety Data Sheets

1. Identification

Product Name : SS21 ink Cyan
 Order No. : SPC-0501C-3 / SPC-0588C-3
 General Use : Ink for ink jet printer
 Product Description : Solvent pigment ink
 SDS Number : 037-S080495
 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 : Category 4 (78-90% unknown)
 Eye Damage / Irritation : Category 2
 Germ Cell Mutagenicity : Category 1B
 Carcinogenicity : Category 1B
 Specific Target Organ Toxicity : Category 2 (central nervous system)
 (Single Exposure)

Environmental Hazards

Hazardous to the Aquatic : Category 3
 Environment - Acute Hazard

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

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[GHS Label Elements]

Symbol



Signal Word

Danger

Hazard Statements

H227 Combustible liquid

H302 Harmful if swallowed

H319 Cause serious eye irritation

H340 May cause genetic defects

H350 May cause cancer

H371 May cause damage to central nervous system

H402 Harmful to aquatic life

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 heat/sparks/open flames/hot surfaces. -No smoking.

P260 Do not breathe vapor or mist.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/clothing and eye/face protection.

[Response]

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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 or doctor/physician.

P330 Rinse mouth.

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use appropriate media for extinction.

[Storage]

P403+P235 Store in a well-ventilated place. Keep cool.

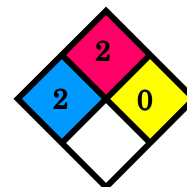
P405 Store locked up.

[Disposal]

P501 Dispose of contents and container in accordance with local, regional, national and international regulation.

NFPA Rating (scale 0 – 4)

Health = 2
 Flammability = 2
 Instability = 0
 Special = None



CANADIAN WHMIS SYMBOLS : B3, D2A, D2B



3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Glycol ether solvents	75-85	Trade Secret
2	Lactone solvent series	10-20	Trade Secret
3	Vinyl resin	1-5	Trade Secret
4	Phthalocyanine blue	1-5	Trade Secret
5	Solvent naphtha	0.5-1.5	Trade Secret
6	1,2,4-Trimethyl benzene	0.1-1	95-63-6
7	Rust preventive	0.1-1	Trade Secret
8	1,3,5-Trimethylbenzene	0.01-0.2	108-67-8
9	Cumene	0.01-0.1	98-82-8

4. First Aid Measures

Inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
Eye Contact	: Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin Contact	: Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops.
Ingestion	: If swallowed, get medical attention.

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Most Important Symptoms/Effects

Acute : eye irritation, central nervous system damage

Delayed : mutagenic effects, cancer

Indication of Immediate : Treat symptomatically and supportively.

Medical Attention and

Special Treatment

Needed, If Needed

5. Fire Fighting Measures

Flammable Properties : Flash point 71.1°C (TCC)

Auto Ignition Temperature: 169°C

Flammable point : 2.2% to 33.0%

Extinguishing Media : carbon dioxide, regular dry chemical, water spray, alcohol resistant foam

Unsuitable Extinguishing Media : Do not scatter spilled material with high-pressure water streams.

Special Hazards Arising from the Chemical : Combustible liquid and vapor.

Hazardous Combustion Products : oxides of carbon, acid halides

Fire Fighting Measures : Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Avoid inhalation of material or combustion by-products. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

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Special Protective Equipment and Precautions for Firefighters : Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures : Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up : Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray.
Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.
Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

7. Handling and Storage

Precautions for Safe Handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear protective gloves and eye/face protection. Wash thoroughly after handling. Avoid release to the environment.

Conditions for Safe Storage, including any Incompatibilities : Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Grounding and bonding required. Store locked up. Keep separated from incompatible substances.

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8. Exposure Controls / Personal Protection

Exposure Limit Values

No	Chemical Name		TWA
1	1,2,4-Trimethyl benzene (95-63-6)	NIOSH	25 ppm TWA; 125 mg/m ³ TWA
2	1,3,5-Trimethylbenzene (108-67-8)	NIOSH	25 ppm TWA; 125 mg/m ³ TWA
3	Cumene (98-82-8)	ACGIH	50 ppm TWA
		OSHA	50 ppm TWA; 245 mg/m ³ TWA prevent or reduce skin absorption
		NIOSH	50 ppm TWA; 245 mg/m ³ TWA Potential for dermal absorption
		Mexico	50 ppm TWA LMPE-PPT; 245 mg/m ³ TWA LMPE-PPT 75 ppm STEL [LMPE-CT]; 365 mg/m ³ STEL [LMPE-CT] Skin - potential for cutaneous absorption

Component Biological Limit Values : There are no biological limit values for the component(s) of this product.

Exposure Controls

Occupational Exposure Controls

Appropriate Engineering Controls : Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection

Respiratory Protection : Consult with a health and safety professional for specific respirators appropriate for your use.



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Hand Protection : Wear appropriate chemical resistant gloves.



Gloves

Eye Protection : Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.



Safety Glasses

Skin Protection : Wear appropriate chemical resistant clothing.



Protective Apron

9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: Blue
Odor		: slight solvent odor
pH		: Not available
Boiling Point / Boiling Range		: ≥ 176 °C
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available
Flash Point		: 71.1°C
Auto ignition temperature		: 169°C
Flammability (Solid, Gas)		: Not applicable
Explosive Properties		: Not available
Oxidizing Properties		: Not available
Upper / Lower Flammability or Explosive Limits		: 2.2% to 33.0%
Vapor Pressure		: Not available
Specific Gravity		: 0.966 (20 °C)
Solubility		: Not available
Water Solubility		: Not available
Partition Coefficient (n-octanol / Water)		: Not available
Viscosity		: 3.6 ± 0.3 (20° C)

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Vapor Density	: Not available
Evaporation Rate	: Not available
VOC	: 907.1 g/L

10. Stability and Reactivity

Reactivity	: No reactivity hazard is expected.
Chemical Stability	: Stable under normal conditions of use.
Possibility of Hazardous Reactions	: Will not polymerize.
Conditions to Avoid	: Avoid flames, sparks, and other sources of ignition. Containers may rupture or explode if exposed to heat. Avoid contact with incompatible materials.
Incompatible Materials	: acids, bases, oxidizing materials, halogens
Hazardous Decomposition	: Combustion: oxides of carbon, acid halides

11. Toxicological Information

Acute Toxicity	: The component(s) of this material have been reviewed in various sources and the following selected endpoints are published:
Component Analysis - LD50/LC50	

Lactone solvent series (Proprietary)

Inhalation LC50 Rat >5100 mg/m³ 4 h; Oral LD50 Rat 1540 mg/kg

Solvent naphtha (Proprietary)

Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 3400 ppm 4 h

1,2,4-Trimethyl benzene (95-63-6)

Dermal LD50 Rabbit >3160 mg/kg; Inhalation LC50 Rat 18 g/m³ 4 h;

Oral LD50 Rat 3280 mg/kg

1,3,5-Trimethylbenzene (108-67-8)

Inhalation LC50 Rat 24 g/m³ 4 h

Cumene (98-82-8)

Dermal LD50 Rabbit 12300 µL/kg; Inhalation LC50 Rat >3577 ppm 6 h; Oral LD50 Rat 1400 mg/kg

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Information on Likely Routes of Exposure

Inhalation : irritation, nausea, vomiting, headache, drowsiness, dizziness, loss of coordination, unconsciousness, coma, tremors, nerve damage, cancer, mutagenic effects

Ingestion : irritation, nausea, vomiting, headache, drowsiness, dizziness, loss of coordination, unconsciousness, coma, tremors, heart damage

Skin Contact : irritation, nausea, headache, drowsiness, dizziness, unconsciousness, coma

Eye Contact : irritation

Immediate Effects : eye irritation, central nervous system damage

Delayed Effects : mutagenic effects, cancer

Medical Conditions : No information available for the product.

Aggravated by Exposure

Irritation/Corrosivity : eye irritation

Data

Respiratory : No information available for the product.

Sensitization

Dermal Sensitization : No information available for the product.

Germ Cell Mutagenicity : Available data characterizes component(s) of this product as a germ cell mutagenic hazard.

Carcinogenicity : Component Carcinogenicity

Lactone solvent series (Proprietary)

IARC:	Monograph 71 [1999]; Supplement 7 [1987]; Monograph 11 [1976] (Group 3 (not classifiable))
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Vinyl resin (Proprietary)

IARC:	Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))
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Cumene (98-82-8)

IARC:	Monograph 101 [2012] (Group 2B (possibly carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 3B (could be carcinogenic for man)
OSHA:	Present

Reproductive Toxicity : No information available for the product.

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Specific Target Organ : central nervous system
 Toxicity - Single Exposure
 Specific Target Organ : No target organs identified.
 Toxicity - Repeated Exposure
 Aspiration Hazard : No information available for the product.

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 : Harmful to aquatic life.

Component Analysis - : Lactone solvent series (Proprietary)

Aquatic Toxicity

Algae:	72 Hr EC50 <i>Desmodesmus subspicatus</i> : 360 mg/L; 96 Hr EC50 <i>Desmodesmus subspicatus</i> : 79 mg/L
Invertebrate:	48 Hr EC50 <i>Daphnia magna</i> Straus: >500 mg/L

Solvent naphtha (Proprietary)

Fish:	96 Hr LC50 <i>Oncorhynchus mykiss</i> : 9.22 mg/L
Invertebrate:	48 Hr EC50 <i>Daphnia magna</i> : 6.14 mg/L

1,2,4-Trimethyl benzene (95-63-6)

Fish:	96 Hr LC50 <i>Pimephales promelas</i> : 7.19 - 8.28 mg/L [flow-through]
Invertebrate:	48 Hr EC50 <i>Daphnia magna</i> : 6.14 mg/L

1,3,5-Trimethylbenzene (108-67-8)

Fish:	96 Hr LC50 <i>Pimephales promelas</i> : 3.48 mg/L
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Cumene (98-82-8)

Fish:	96 Hr LC50 <i>Pimephales promelas</i> : 6.04 - 6.61 mg/L [flow-through]; 96 Hr LC50 <i>Oncorhynchus mykiss</i> : 4.8 mg/L [flow-through]; 96 Hr LC50 <i>Oncorhynchus mykiss</i> : 2.7 mg/L [semi-static]; 96 Hr LC50 <i>Poecilia reticulata</i> : 5.1 mg/L [semi-static]
Algae:	72 Hr EC50 <i>Pseudokirchneriella subcapitata</i> : 2.6

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	mg/L
Invertebrate:	48 Hr EC50 Daphnia magna: 0.6 mg/L; 48 Hr EC50 Daphnia magna: 7.9 - 14.1 mg/L [Static]

Persistence and Degradability : Not available

Bioaccumulation : Not available

Mobility : Not available

Other Toxicity : Not available

13. Disposal Considerations

: Comply with all USA, national and local regulations.

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

Disposal Methods : Dispose in accordance with all applicable regulations.

Component Waste : Cumene (98-82-8)

Numbers

RCRA:	waste number U055 (Ignitable waste)
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Disposal of Contaminated Packaging : Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

IATA Information : Not regulated as dangerous goods for transport.

ICAO Information : Not regulated as dangerous goods for transport.

IMDG Information : Not regulated as dangerous goods for transport.

Marine Pollutant : Lactone solvent series (Proprietary)

IBC Code: Category Y

TDG Information : Not regulated as dangerous goods for transport.

US DOT Information : Not regulated as dangerous goods for transport. *1

*1 Class combustible liquid (NA1993), Packing group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities

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15. Regulatory Information

U.S. Federal Regulations : This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

1,2,4-Trimethyl benzene (95-63-6)

SARA 313:	1.0 % de minimis concentration
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Cumene (98-82-8)

SARA 313:	1.0 % de minimis concentration
CERCLA:	5000 lb final RQ; 2270 kg final RQ

SARA Title III Section 311/312 : Acute Health: Yes
 Chronic Health: Yes
 Fire: Yes
 Pressure: No
 Reactive: No

U.S. State Regulations : The following components appear on one or more of the following state hazardous substances lists:

Component	CAS No.	CA	MA	MN	NJ	PA
1,2,4-Trimethyl benzene	95-63-6	No	Yes	Yes	Yes	Yes
1,3,5-Trimethylbenzene	108-67-8	Yes	Yes	No	No	No
Cumene	98-82-8	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Canada : WHMIS CLASSIFICATION: B3, D2A, D2B.

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Canadian WHMIS Ingredient Disclosure List (IDL) : Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

1,2,4-Trimethyl benzene (95-63-6) : 0.1%

1,3,5-Trimethylbenzene (108-67-8) : 0.1%

Chemical Inventory Listings : Component Analysis - Inventory

Component	US	CA	EU	AU	PHIL	JP	KR	CN	NZ
Glycol ether solvents (Proprietary)	Yes	NSL	EIN	No	No	Yes	No	Yes	No
Lactone solvent series (Proprietary)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Vinyl resin (Proprietary)	Yes	DSL	No	Yes	Yes	Yes	Yes	Yes	Yes
Phthalocyanine blue (Proprietary)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Solvent naphtha (Proprietary)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
1,2,4-Trimethyl benzene (95-63-6)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Rust preventive (Proprietary)	Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	Yes
1,3,5-Trimethylbenzene (108-67-8)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Cumene (98-82-8)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

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16. Other Information

Key/Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; CAS - Chemical Abstracts Service; CLP - Classification, Labelling and Packaging; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; IBC Code - International Bulk Chemical Code; Kow - Octanol/water partition coefficient; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NTP = National Toxicology Program; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; STEL - Short-term Exposure Limit; TWA - Time Weighted Average; UEL - Upper Explosive Limit

Other Information

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