Safety Data Sheets

1. Identification

Product Name	: Dye Sublimation Ink MLSb520 Black D
Order No.	: MLS52-KD-BJ
Ink Ver.	: 1
General Use	: Ink jet printing ink
Product Description	: Dye Sublimation Ink
SDS Number	: 037-W522899
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	: 4851 Thurmon Tanner Parkway, STE 100 Flowery Branch, GA 30542, U.S.A.
Telephone No.	: +1-678-730-0170
Emergency Telephone No.	: +1 866 928 0789 (within United States only, Toll free) +1 215 207 0061

2. Hazards Identification

[HCS Classification]

Physical Hazards

Flammable Liquids	: Not classified

Health Hazards

Sensitization – Skin	: Category 1

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

[HCS Label Elements]

Symbol

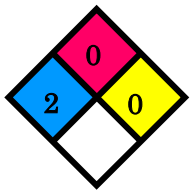
Signal Word
Warning

Hazard Statements
H317 May cause an allergic skin reaction

Precautionary Statements
[Prevention]
P261 Avoid breathing gas/mist/vapors.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
[Response]
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.
[Storage]
None needed according to classification criteria.
[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

NFPA Rating (scale 0 – 4)

Health = 2
Flammability = 0
Instability = 0
Special =



3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Water	55-65	7732-18-5
2	Glycerol	5-15	56-81-5
3	1,2-Propylene glycol	5-15	57-55-6
4	Preservative	<0.2	Trade Secret
5	Glycerols	1-10	Trade Secret
6	Dye	1-10	Trade Secret
7	Other	<10	Trade Secret

The chemical identity and/or percentage of composition is being withheld as a trade secret.

4. First Aid Measures

Inhalation : Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician.

Eye Contact : Rinse cautiously with water for several minutes. Remove contact

	lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Skin Contact	: Gently wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation or rash occurs: Get medical advice/attention. Contaminated clothing should be removed and laundered before reuse.
Ingestion	: If swallowed, get medical attention.
Most Important Symptoms/Effects	
Acute	: mild skin irritation, allergic skin reaction.
Delayed	: No information on significant adverse effects.
Indication of Immediate Medical Attention and Special Treatment Needed, If Needed	: Treat symptomatically and supportively.

5. Fire Fighting Measures

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	: Negligible fire hazard. Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.
Hazardous Combustion Products	: oxides of carbon, acrolein.
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.
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.
Methods and Materials for Containment and Cleaning Up	: Avoid heat, flames, sparks and other sources of ignition. 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.
Environmental Precautions	: Avoid release to the environment.

7. Handling and Storage

Precautions for Safe Handling	: Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear suitable protective gloves and eye/face protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
Conditions for Safe Storage, including any Incompatibilities	: None needed according to classification criteria. Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Keep container tightly closed. Keep cool. Keep separated from incompatible substances.
Incompatible Materials	: acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents, combustible materials, halocarbons, metals, metal salts.

8. Exposure Controls / Personal Protection

Component Exposure Limits

Glycerol 56-81-5	OSHA	15 mg/m3 TWA mist, total particulate; 5 mg/m3 TWA mist, respirable fraction
	Mexico	10 mg/m3 TWA LMPE-PPT mist

EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance

Measures

There are no biological limit values for any of this product's components.

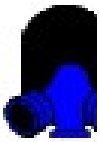
ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

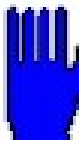
Engineering Controls : Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

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



Glove Recommendations : Wear appropriate chemical resistant gloves.



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

Skin Protection : Wear appropriate chemical resistant apron.

9. Physical and Chemical Properties

Appearance	- Physical State	: liquid
	- Color	: black
Odor		: unique odor
pH		: 7-9
Boiling Point / Boiling Range		: Not available
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available

Flash Point	: Not flammable
Auto ignition temperature	: Not available
Flammability (Solid, Gas)	: Not available
Explosive Properties	: Not available
Oxidizing Properties	: Not available
Upper / Lower Flammability or Explosive Limits	: Not available
Vapor Pressure	: Not available
Relative Density	: 1–1.2 g/cm^3
Solubility	: Not available
Water Solubility	: Soluble
Partition Coefficient (n-octanol / Water)	: Not available
Viscosity	: 4-6 mPas (25 ℃)
Vapor Density	: Not available
Evaporation Rate	: Not available

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, metal oxides, peroxides, reducing agents, combustible materials, halocarbons, metals, metal salts.
Hazardous Decomposition	: oxides of carbon, acrolein.

11. Toxicological Information

Acute Toxicity : The components of this material have been reviewed in various sources and the following selected endpoints are published.

	Oral	Dermal	Inhalation
Glycerol 56-81-5	LD50 =12600 mg/kg rat	LD50 >10 g/kg rabbit	LC50 >570 mg/m3 1 h rat
1,2-Propylene glycol 57-55-6	LD50 =20 g/kg rat	LD50 =20800 mg/kg rabbit	-

Information on Likely Routes of Exposure

Inhalation : irritation, difficulty breathing, nausea, vomiting

Ingestion : nausea, vomiting, diarrhea, headache, dizziness, drowsiness, stomach pain

Skin Contact : irritation, allergic skin reaction

Eye Contact : irritation

Immediate Effects : mild skin irritation, allergic skin reaction

Delayed Effects : No information on significant adverse effects.

Medical Conditions Aggravated by Exposure : kidney disorders, skin disorders and allergies

Irritation/Corrosivity Data : mild skin irritation

Respiratory Sensitization : No information available for the product.

Dermal Sensitization : May cause an allergic skin reaction.

Germ Cell Mutagenicity : No information available for the product.

Carcinogenicity : None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Tumorigenic Data : No data available

Reproductive Toxicity : No information available for the product.

Specific Target Organ Toxicity - Single Exposure : No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure	: No target organs identified.
Aspiration Hazard	: Not expected to be an aspiration hazard.

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.

Component Analysis - Aquatic Toxicity	Glycerol(56-81-5)	
	Fish:	LC50 96 h Oncorhynchus mykiss 51 - 57 mL/L [static]
	1,2-Propylene glycol(57-55-6)	
	Fish:	LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L
	Algae:	EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID
	Invertebrate:	EC50 48 h Daphnia magna >1000 mg/L [Static] EPA
Persistence and Degradability	: No information available for the product.	
Bioaccumulation	: No information available for the product.	
Mobility	: No information available for the product.	

13. Disposal Considerations

Disposal Methods	: Comply with all USA, 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 DOT Information	: No Classification assigned.
TDG Information	: No Classification assigned.

UN Number : No Classification assigned.

15. Regulatory Information

U.S. Federal Regulations : None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

Section 311/312 (40 CFR 370) : Acute Health: Yes Chronic Health: No Fire: No Pressure: No Reactivity: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Glycerol	56-81-5	No	Yes	Yes	Yes	Yes
1,2-Propylene glycol	57-55-6	No	No	Yes	Yes	Yes

California Proposition 65 : Not listed under California Proposition 65

Component Analysis – Inventory

Glycerol (56-81-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

1,2-Propylene glycol (57-55-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

16. Other Information

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC -

European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory, EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law, JP - Japan; Kow - Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory, KECL – Korea Existing Chemicals List, KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act, TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.