Safety Data Sheets

1. Identification

Product Name	: Latex ink LX100/LX101 White
Order No.	: LX100-W-22
Ink Ver.	: 3
General Use	: Ink for ink jet printer
Product Description	: Aqueous ink
SDS Number	: 037-W350539
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
non-classifiable or not-applicable.

Health Hazards

Eye Damage / Irritation	: Category 2
Carcinogenicity	: Category 2
Toxic to Reproduction	: Category 2
Specific Target Organ Toxicity (Repeated Exposure)	: Category 1 (lungs)

Environmental Hazards
non-classifiable or not-applicable.

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

Safety Data Sheets

[GHS Label Elements]

Symbol

Signal Word

Danger

Hazard Statements

H319 Cause serious eye irritation
H351 Suspected of causing cancer
H361 Suspected of damaging fertility or the unborn child
H372 Causes damage to lungs through prolonged or repeated exposure.

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.
P260 Do not breathe gas/mist.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/clothing and eye/face protection.

[Response]

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+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.

[Storage]

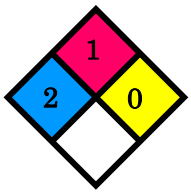
P405 Store locked up.

[Disposal]

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

NFPA Rating (scale 0 – 4)

Health = 2
Flammability = 1
Instability = 0
Special = None



CANADIAN WHMIS SYMBOLS

Safety Data Sheets

3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Diethylene grycol derivative	15-25	Trade Secret
2	Alcohol derivative	23-27	Trade Secret
3	Titanium dioxide	1-10	13463-67-7
4	Resin	1-10	Trade Secret
5	Methyldiethanolamine	0.1-1.5	105-59-9
6	Water	balance	7732-18-5

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.

Most Important Symptoms/Effects

Acute : eye irritation

Delayed : cancer, reproductive effects, lung damage

Indication of Immediate Medical Attention and Special Treatment Needed, If Needed : Treat symptomatically and supportively.

5. Fire Fighting Measures

Flammable Properties : Flash point Not flammable

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.
Hazardous Combustion Products	: oxides of carbon, oxides of nitrogen
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. 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. 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.
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. Store locked up. Keep separated from incompatible substances..

8. Exposure Controls / Personal Protection

Exposure Limit Values

No	Chemical Name		TWA
1	Titanium dioxide (13463-67-7)	ACGIH:	10 mg/m3 TWA
		OSHA:	15 mg/m3 TWA (total dust)
		Mexico	10 mg/m3 TWA LMPE-PPT (as Ti) 20 mg/m3 STEL [LMPE-CT] (as Ti)

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 : 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.

Hand Protection : Wear appropriate chemical resistant 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.

Skin Protection : Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: White
Odor		: slight solvent odor
pH		: 9.3±0.5
Boiling Point / Boiling Range		: Not available
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available
Flash Point		: Not flammable
Flammability (Solid, Gas)		: Not applicable
Explosive Properties		: Not available
Oxidizing Properties		: Not available
Specific Gravity		: 1.08±0.01 (20 ℃)
Solubility		: Not available
Water Solubility		: soluble
Partition Coefficient (n-octanol / Water)		: Not available
Viscosity		: Not available
Vapor Density		: Not available
Evaporation Rate		: Not available
VOC		: 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. Avoid contact with incompatible materials.
Incompatible Materials	: oxidizing materials
Hazardous Decomposition	: Combustion: oxides of carbon, oxides of nitrogen

11. Toxicological Information

Acute Toxicity Component Analysis - LD50/LC50	: The component(s) of this material have been reviewed in various sources and the following selected endpoints are published: **Titanium dioxide (13463-67-7)** Oral LD50 Rat >10000 mg/kg

Information on Likely Routes of Exposure

Inhalation	: irritation, difficulty breathing, headache, lung damage, cancer, reproductive effects
Ingestion	: no information on significant adverse effects
Skin Contact	: irritation
Eye Contact	: irritation
Immediate Effects	: eye irritation
Delayed Effects	: cancer, reproductive effects, lung damage
Medical Conditions Aggravated by Exposure	: No information available for the product.
Irritation/Corrosivity Data	: eye irritation
Respiratory Sensitization	: No information available for the product.
Dermal Sensitization	: No information available for the product.
Germ Cell Mutagenicity	: No information available for the product.

Carcinogenicity : Component Carcinogenicity

Titanium dioxide (13463-67-7)

ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 93 [2010]; Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))
DFG:	Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles)
OSHA:	Present

Reproductive Toxicity : Available data characterizes components of this product as reproductive hazards.

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

Specific Target Organ Toxicity - Repeated Exposure : lungs

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.

Ecotoxicity : Harmful to aquatic life.

Component Analysis - Aquatic Toxicity : Methyldiethanolamine (105-59-9)

Fish:	96 Hr LC50 Pimephales promelas: >1000 mg/L
Algae:	72 Hr EC50 Desmodesmus subspicatus: 37 mg/L; 96 Hr EC50 Desmodesmus subspicatus: 20 mg/L
Invertebrate:	48 Hr EC50 Daphnia magna: 230 mg/L

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 Numbers	: The U.S. EPA has not published waste numbers for this product's components.
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.
US DOT Information	: Not regulated as a hazardous material for transport.
TDG Information	: Not regulated as dangerous goods for transport.
Marine Pollutant	: Titanium dioxide (13463-67-7) IBC Code: Category Z (slurry)

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 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.
SARA TitleⅢ Section 311/312	: Acute Health: Yes Chronic Health: Yes Fire: No 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
Titanium dioxide	13463-67-7	No	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: D2A, D2B.

Canadian WHMIS Ingredient Disclosure List (IDL) : None of the product component(s) are listed on the Ingredients Disclosure List (IDL).

Chemical Inventory Listings : Component Analysis - Inventory

Component	US	CA	EU	AU	PHIL	JP	KR	CN	NZ
Titanium dioxide (13463-67-7)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Methyldiethanolamine (105-59-9)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

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

Safety Data Sheets

Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

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