

Safety Data Sheets

1. Identification

Product Name	: UV ink LF-200 White
Order No.	: SPC-0591W-5
General Use	: Ink for ink jet printer
Product Description	: UV Inkjet Ink
SDS Number	: 037-U050565
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.	: +1-678-730-0170
Emergency Telephone No.	: +1 866 928 0789 (within United States only, Toll free) +1 215 207 0061

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids : Not classified

Health Hazards

Acute Toxicity (oral) : Category 4
Skin Corrosion / Irritation : Category 2
Eye Damage / Irritation : Category 2A
Sensitization – Skin : Category 1
Carcinogenicity : Category 2
Toxic to Reproduction : Category 2
Specific Target Organ Toxicity : Category 2 (skin)
(Repeated Exposure)

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

[GHS Label Elements]

Safety Data Sheets

Symbol



Signal Word

Warning

Hazard Statements

H302 Harmful if swallowed.

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child

H373 May cause damage to organs through prolonged or repeated exposure (Skin)

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.

P272 Contaminated work clothing should not be allowed out of the workplace.

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

[Response]

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

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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.

P330 Rinse mouth.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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

P362+P364 Take off contaminated clothing and wash before re-use.

[Storage]

P405 Store locked up.

[Disposal]

P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

[Hazards not otherwise classified]

None.

12% of the mixture consists of ingredients of unknown acute oral toxicity.

32% of the mixture consists of ingredients of unknown acute dermal toxicity.

Safety Data Sheets

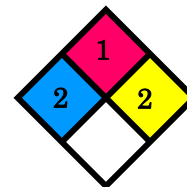
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 1

Instability = 2

Special = None



3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	ISOBORNYL ACRYLATE	20 - 30	5888-33-5
2	PHENOXY ETHYL ACRYLATE	15 - 25	48145-04-6
3	TETRAHYDROFURFURYL ACRYLATE	15 - 25	2399-48-6
4	TITANIUM DIOXIDE	5 - 15	13463-67-7
5	2,4,6-Trimethylbenzoyldiphenylphosphine oxide	5 - 10	75980-60-8
6	ALIPHATIC URETHANE ACRYLATE	5 - 10	Trade Secret
7	1,6-HEXANEDIOL DIACRYLATE	1 - 5	13048-33-4
8	STABILIZER	1 - 5	Trade Secret
9	SUBSTITUTED TRIAZINE	1 - 5	Trade Secret
10	SILICA	0.1 – 1.5	7631-86-9
12	DISPERSANT	0.1 – 1.5	Trade Secret
11	TREATMENT MATERIAL FOR TITANIUM DIOXIDE	0.1 – 1.5	Trade Secret

4. First Aid Measures

Inhalation	: Remove person to fresh air. If you feel unwell, get medical attention.
Eye Contact	: Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.
Skin Contact	: Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.
Ingestion	: Rinse mouth. If you feel unwell, get medical attention.

Safety Data Sheets

Most Important : See Section 11.1. Information on toxicological effects.

Symptoms/Effects

Indication of Immediate : Not applicable.

Medical Attention and

Special Treatment

Needed, If Needed

5. Fire Fighting Measures

Flammable Properties : Flash point 95°C

Extinguishing Media : Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

Special Hazards Arising from the Chemical : Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Combustion Products : Carbon monoxide, Carbon dioxide (During Combustion)

Products

Special protective actions for fire-fighters : Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

Environmental precautions : Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water

Methods and material for containment and cleaning up : Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it

Safety Data Sheets

appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

7. Handling and Storage

Precautions for Safe Handling : For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

Conditions for Safe Storage, including any Incompatibilities : Keep container tightly closed to prevent loss of stabilizing materials. Store away from heat. Store away from oxidizing agents.

8. Exposure Controls / Personal Protection

Exposure Limit Values : If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS No.	Agency	Limit type	Additional Comments
1,6-HEXANEDIOL DIACRYLATE	13048-33-4	AIHA	TWA:1 mg/m ³ (0.11 ppm)	Dermal Sensitizer



Safety Data Sheets

TITANIUM DIOXIDE	13463-67-7	ACGIH	TWA:10 mg/m ³	A4: Not class. as human carcin
		CMRG	TWA(as respirable dust):5mg/m ³	
		OSHA	TWA(as total dust):15 mg/m ³	
TETRAHYDROFURFURYLACRYLATE	2399-48-6	Manufacturer determined	TWA:0.1 ppm (0.64mg/m ³); STEL:0.3 ppm(1.91 mg/m ³)	
SILICA	7631-86-9	CMRG	TWA(as respirable dust):3mg/m ³	
SILICA, AMORPHOUS		OSHA	TWA concentration:0.8 mg/m ³ ;TWA:20 millions of particles/cu. ft.	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Exposure Controls

Occupational Exposure Controls

Appropriate

: Use general dilution ventilation and/or local exhaust ventilation to

Engineering Controls

control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

Safety Data Sheets

Personal Protection

Respiratory Protection



: An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure: Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates
For questions about suitability for a specific application, consult with your respirator manufacturer.

Skin/Hand Protection



: Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity. Gloves made from the following material(s) are recommended: Polymer laminate
If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended:
Apron - polymer laminate

Eye Protection



: Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended: Indirect Vented Goggles

9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: White
Odor		: Acrylate Odor,

Safety Data Sheets

pH	: Not available
Boiling Point / Boiling Range	: Not available
Melting Point / Melting Range	: Not available
Decomposition Temperature	: Not available
Flash Point	: 95°C
Auto ignition temperature	: Not available
Flammability (Solid, Gas)	: Not Applicable
Explosive Properties	: Not available
Oxidizing Properties	: Not available
Upper / Lower Flammability or Explosive Limits	: Not available
Vapor Pressure	: Not available
Specific Gravity	: 1.13 [Ref Std: WATER=1]
Solubility	: Not available
Water Solubility	: Negligible
Partition Coefficient (n-octanol / Water)	: Not available
Viscosity	: 19 centipoise [@ 25 °C]
Vapor Density	: Not available
Evaporation Rate	: Not available
VOC	: Not available

10. Stability and Reactivity

Reactivity	: This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.
Chemical Stability	: Stable under normal conditions of use.
Possibility of Hazardous Reactions	: Hazardous polymerization may occur. (Upon depletion of inhibitor or exposure to heat)
Conditions to Avoid	: Heat
Incompatible Materials	: Strong oxidizing agents
Hazardous	: None known.
Decomposition	

Refer to section 5.2 for hazardous decomposition products during combustion

Safety Data Sheets

11. Toxicological Information

- Inhalation : Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Skin Contact : Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
 Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.
- Eye Contact : Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision
- Ingestion : Harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- Additional Health Effects:
- Prolonged or repeated exposure may cause target organ effects: : Dermal Effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.
- Reproductive/Developmental Toxicity: : Contains a chemical or chemicals which can cause birth defects or other reproductive harm.
- Carcinogenicity : Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
TITANIUM DIOXIDE	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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 : Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

Safety Data Sheets

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 release to water. Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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

EPA Hazardous Waste Number (RCRA)	: Not regulated
-----------------------------------	-----------------

14. Transport Information

	Check a thing without a leak in a container. Perform prevention of collapse of cargo surely.
UN Number	: UN3082
Shipping Name	: Environmentally hazardous substance, liquid, n.o.s. (Contains: ISOBORNYL ACRYLATE, 1,6-HEXANEDIOL DIACRYLATE)
Hazardous Class or Division	: 9

Safety Data Sheets

Packing Group (PG) : III
 Marine Pollutant : Yes
 Remarks : Single or inner packaging less than 5 L (liquid) or 5 kg net (solids) is
 excepted from Dangerous Goods regulations.
 Refer to ICAO/IATAA197, IMDG 2.10.2.7, ADR SP 375.

15. Regulatory Information

U.S. Federal Regulations

SARA Title III : Immediate Hazard: Yes
 Section 311/312 Delayed Hazard: Yes
 Fire: No
 Pressure: No
 Reactive: No


SARA Title III :

Section 313

Ingredient	CAS No.	%
PHENOXY ETHYL ACRYLATE (GLYCOL ETHERS)	48145-04-6	15 - 25

State Regulations

California Proposition 65

: **WARNING**
 This product can expose you to chemicals including Titanium
 dioxide, which is known to the State of California to cause cancer.
 For more information go to www.P65Warnings.ca.gov.

Chemical Inventories : The components of this product are in compliance with the chemical
 notification requirements of TSCA.

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.