

Safety Data Sheets

1. Identification

Product Name : LUS-170 Clear
Order No. : LUS17-CL-BA
General Use : Ink jet printing ink
Product Description : UV Inkjet ink
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 Australia
Company Name : MIMAKI AUSTRALIA PTY LTD.
Address : Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia
Telephone No. : + 61-2-8036-4500
Emergency Telephone No. : +61 2 8014 4558 (within Australia only)
18000 74234 (within Australia only)
+65 3158 1074

2. Hazards Identification

Classified as a hazardous product in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS)

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

[GHS Classification]

Acute Toxicity – Oral	: Category 4
Acute Toxicity – Dermal	: Category 4
Skin Corrosion / Irritation	: Category 2
Eye Damage / Irritation	: Category 1
Sensitization – Skin	: Category 1A
Toxic to Reproduction	: Category 1B
Specific Target Organ Toxicity (Repeated Exposure)	: Category 1
Hazardous to the Aquatic Environment - Acute Hazard	: Category 2
Hazardous to the Aquatic Environment - Long Term Hazard	: Category 2

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

[Label Elements]

Symbol



Signal Word

Danger

Hazard Statements

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation

H318 Cause serious eye damage

H317 May cause an allergic skin reaction

H360 May damage fertility or the unborn child

H372 Causes damage to organs through prolonged or repeated exposure(Liver, respiratory tract)

H411 Toxic to aquatic life with long lasting effects

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 and eyes 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.

P273 Avoid release to the environment.

[Response]

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

(P301)+P330 (IF SWALLOWED): Rinse mouth.

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.

(P305)+P310 (IF IN EYES): Immediately call a POISON CENTER or doctor/physician.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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

P362+P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

[Storage]

P405 Store locked up.

[Disposal]

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

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[Other hazards]

Not Applicable.

3. Composition / Information on Ingredients

Substance/mixture: mixture

Chemical Name	CAS No	weight-%
2-Propenoic acid, 2-phenoxyethyl ester	48145-04-6	30-40
2-Propenoic acid, (tetrahydro-2-furanyl)methyl ester	2399-48-6	10-20
2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-	5888-33-5	10-20
2H-Azepin-2-one, 1-ethenylhexahydro-	2235-00-9	10-20
Acrylate monomer	CBI	5-15
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	75980-60-8	5-15
Additives	CBI	<1
Others	CBI	<1

4. First Aid Measures

[Description of first aid measures]

General advice	: Show this safety data sheet to the doctor in attendance. Do not delay care and transport of a seriously injured person. IF exposed or concerned: Get medical advice/attention.
Inhalation	: Move victim to fresh air. Get medical attention.
Skin Contact	: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Eye Contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. Immediately call a POISON CENTER or doctor/physician.
Ingestion	: Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get medical attention.
Self-protection of the first aider	: Wear personal protective clothing (see section 8). Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

[Symptoms caused by exposure]

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Symptoms : Prolonged contact may cause redness and irritation. May cause blindness. Coughing and/ or wheezing. Hives. Itching. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Rashes.

[Medical attention and special treatment]

Note to physicians : May cause sensitization of susceptible persons.

5. Fire Fighting Measures

Flammable Properties : Flash Point, 95 ° C / 203 ° F

Suitable Extinguishing Media : Use CO₂, dry chemical, or foam, Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable Extinguishing Media : Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical : Risk of ignition. The product causes irritation of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. Product is or contains a sensitizer. The product causes burns of eyes, skin and mucous membranes.

Special protective equipment and precautions for fire fighters : Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental Release Measures

[Personal Precautions, Protective Equipment and Emergency Procedures]

Personal precautions : Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Keep people away from and upwind of spill/leak. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing.

For emergency responders : Use personal protection recommended in Section 8.

Environmental Precautions : Prevent entry into waterways, sewers, basements or confined areas.

[Methods and material for containment and cleaning up]

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Methods for containment : Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up : Use personal protective equipment as required. Clean contaminated surface thoroughly. Pick up and transfer to properly labeled containers. Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

Reference to other sections : See Section 12: ECOLOGICAL INFORMATION.

7. Handling and Storage

[Precautions for Safe Handling]

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Do not eat, drink or smoke when using this product.

General Hygiene : Regular cleaning of equipment, work area and clothing is recommended. Do not eat, drink or smoke when using this product.

Considerations : Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing dust/fume/gas/mist/vapors/spray.

[Conditions for Safe Storage, including any Incompatibilities]

Storage Conditions : Keep away from heat. Keep container tightly closed. Keep in properly labeled containers. Store locked up.

[Specific end use(s)]

Risk Management : The information required is contained in this Safety Data Sheet.

Methods (RMM)

8. Exposure Controls / Personal Protection

[Control parameters]

Exposure Limits

Chemical Name	Australia	ACGIH
Caprolactam 105-60-2	10 mg/m ³ 1 mg/m ³	TWA: 5 mg/m ³ inhalable fraction and vapor

Caprolactam is non-intentionally added substance, contains less than 1% in the product

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[Appropriate engineering controls]

Engineering Controls : Showers.
 Eyewash stations.
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection : Face protection shield. Tight sealing safety goggles.

Hand Protection : Impervious gloves.

Skin and body protection : Rubber boots. Long sleeved clothing. Impervious clothing. Chemical resistant apron.

Respiratory protection : Vapor mask.

Environmental exposure controls : Do not allow into any sewer, on the ground or into any body of water.

9. Physical and Chemical Properties

Appearance	- Physical State	: liquid
	- Color	: light yellow
Odor		: Characteristic odor
Odor Threshold		: No data available
pH		: No data available
Melting point/freezing point		: No data available
Boiling point/boiling range		: No data available
Flash point		: 95 °C / 203 °F (Acceptance by the lowest flash point)
Evaporation rate		: No data available
Flammability (solid, gas)		: No data available
Flammability Limits in Air		: No data available
	Upper flammability limits	
	Lower flammability limit	
Vapor Pressure		: No data available
Vapor density		: No data available
Specific gravity		: 1.0-1.1
Solubility(ies)		: Immiscible in water
Partition coefficient		: No data available
Autoignition temperature		: No data available

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Decomposition temperature	: No data available
Kinematic viscosity	: No data available
Dynamic viscosity	: 7-12 mPa·s(25 deg.C)
[Other information]	
Molecular weight	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Softening point	: No data available
VOC Content (%)	: No data available
Density	: No data available
Bulk density	: No data available

10. Stability and Reactivity

Reactivity	: No information available.
Chemical Stability	: Stable under the normal storage and use.
Explosion data	: Sensitivity to Mechanical Impact; None. Sensitivity to Static Discharge; Yes.
Possibility of Hazardous Reactions	: No information available.
Hazardous polymerization	: None under normal processing.
Conditions to Avoid	: Heat, flames and sparks.
Incompatible Materials	: Strong oxidizing agents. Finely powdered metals.
Hazardous decomposition products	: None known based on information supplied.

11. Toxicological Information

[Information on likely routes of exposure]

Acute Toxicity	
Inhalation	: Irritating to respiratory system.
Eye contact	: Irritating to eyes. Causes serious eye damage. May cause irreversible damage to eyes.
Skin Contact	: Harmful in contact with skin. Causes skin irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

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Ingestion : Harmful if swallowed. Ingestion may cause irritation to mucous membranes. May be harmful if swallowed and enters airways.

Symptoms : Coughing and/ or wheezing. May cause redness and tearing of the eyes. Redness. Burning. May cause blindness. Hives. Itching. May cause allergic skin reaction. Rashes.

Unknown Acute Toxicity

0.2 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

17.9 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

The following values are calculated based on chapter 3.1 of the GHS document

Chemical Name	Oral LD50	Dermal LD50
Product	ATEmix < 2000mg/kg	ATEmix < 2000mg/kg

Acute toxicity In calculating the ATE for product classification, the converted acute toxicity value estimate is used.

[Delayed and immediate effects as well as chronic effects from short and long-term exposure]

Skin corrosion : Based on available data, the classification criteria are not met.
In Vitro Acute Dermal Corrosivity Study Episkin test ☐ GLP OECD TG431

In this in vitro EPISKIN model test with similar product, the result indicates that the product is non-corrosive to the skin.

Skin irritation : Classification is based on mixture calculation methods based on component data. Irritating to skin.

Serious eye damage/eye irritation : Classification is based on mixture calculation methods based on component data. Risk of serious damage to eyes.

Respiratory or skin sensitization : Classification is based on mixture calculation methods based on component data. May cause sensitization by skin contact. May cause sensitization in susceptible persons.

Germ cell mutagenicity : Classification is based on mixture calculation methods based on component data. Based on available data, the classification criteria are not met.

Carcinogenicity : Classification is based on mixture calculation methods based on component data Based on available data, the classification criteria are not met.

Reproductive toxicity : Classification is based on mixture calculation methods based on component data. Contains material that may cause adverse

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reproductive effects.

STOT - single exposure : Classification is based on mixture calculation methods based on component data. Based on available data, the classification criteria are not met.

STOT - repeated exposure : Classification is based on mixture calculation methods based on component data. Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Classification is based on mixture calculation methods based on component data. Based on available data, the classification criteria are not met.

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 : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Caprolactam	EC50 (72h): = 130 mg/L (Desmodesmus subspicatus) EC50 (96h): = 160 mg/L (Desmodesmus subspicatus) EC50 (72h): 4320 – 4800 mg/L (Pseudokirchneriella)	LC50 (96h, static): = 930 mg/L (Lepomis macrochirus) LC50 (96h, static): = 1400 mg/L (Pimephales promelas)	EC50 (48h): 828 - 2920 mg/L (Daphnia magna) EC50 (48h): > 500 mg/L (Daphnia magna Straus)

Caprolactam is non-intentionally added substance, contains less than 1% in the product

Persistence and : No data available.

Degradability

Bioaccumulative potential : No data available.

Mobility in soil : No data available.

Other adverse effects : No data available.

13. Disposal Considerations

[Waste treatment methods]

Waste from Residues / Unused Products : Disposal should be in accordance with applicable regional, national and local laws and regulations.

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Contaminated packaging : Disposal should be in accordance with applicable regional, national and local laws and regulations. Improper disposal or reuse of this container may be dangerous and illegal.

14. Transport Information

Check a thing without a leak in a container.
 Perform prevention of collapse of cargo surely.

[ADG]

UN/ID no : UN3082
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, 2-Propenoic acid, 2-phenoxyethyl ester)
 Hazard Class : 9
 Packing Group : III
 Environmental hazard : Yes
 Special Provisions : 274, 331, 335, 375, AU01
 Description : UN3082, Environmentally hazardous substance, liquid, n.o.s. (2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, 2-Propenoic acid, 2-phenoxyethyl ester), 9, III

[IMDG]

UN/ID no : UN3082
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, 2-Propenoic acid, 2-phenoxyethyl ester)
 Hazard Class : 9
 Packing Group : III
 Marine pollutant : This material meets the definition of a marine pollutant
 Environmental hazard : Yes
 Special Provisions : 2.10.2.7 *1
 EmS-No : F-A, S-F
 Description : UN3082, Environmentally hazardous substance, liquid, n.o.s. (2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, 2-Propenoic acid, 2-phenoxyethyl ester), 9, III

[IATA]

UN/ID no : UN3082

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Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, 2-Propenoic acid, 2-phenoxyethyl ester)
Hazard Class	: 9
Packing Group	: III
Environmental hazard	: Yes
Special Provisions	: A197 *1
ERG Code	: 9L
Description	: UN3082, Environmentally hazardous substance, liquid, n.o.s. (2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, 2-Propenoic acid, 2-phenoxyethyl ester), 9, III

*1 Single or inner packaging less than 5 L (liquid) or 5 kg net (solids) is excepted from Dangerous Goods regulations -- see UN Special Provision.

15. Regulatory Information

[Safety, health and environmental regulations/legislation specific for the substance or mixture]

See section 8 for national exposure control parameters

Major hazard	: Not applicable
(accident/incident planning) regulation	
National pollutant inventory (Subject to reporting requirement)	: Not applicable
BANNED and/or restricted	: This product does not contain substances subject to prohibition, authorization or restriction.
International Inventories	: AICS-Australia-Australian Inventory of Chemical Substances. Complies

16. Other Information

[Key or legend to abbreviations and acronyms used in the safety data sheet]

ACGIH (American Conference of Governmental Industrial Hygienists)

[Key literature references and sources for data]

No information available

[Reference]

LOLI Database (ChemADVISOR, Inc.)



Product Name: LUS-170 Clear
SDS No. 037-U184028
First issue: 2018/06/20
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Work Health and Safety (WHS) Regulation 2011

[The reference on GHS classification results]

EU CLP (1272/2008) Annex VI Table 3

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