

SDS No. 037-U338627 First issue: 2025/02/21

Revised:

Safety Data Sheets

1. Identification

Product Name : UV ink ELS-120 Clear

Order No. : ELS120-CL-BA / ELS120-CL-B2

General Use : Ink jet printing ink

Product Description : UV Inkjet Ink

SDS Number :

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 Singapore

Company Name : MIMAKI SINGAPORE PTE. LTD.

Address : 31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03

Telephone No. : +65-6508-2789

Emergency Telephone No. : +65 3165 2217 (within Singapore only)

+65 3158 1074

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids : Not classified

Health Hazards

Skin Corrosion / Irritation : Category 2

Eye Damage / Irritation : Category 2A

Sensitization - Skin : Category 1

Specific Target Organ Toxicity : Category 3 (Respiratory tract iritation)

(Single Exposure)

Specific Target Organ Toxicity : Category 1 (Liver, respiratory tract)

(Repeated Exposure)

Environmental Hazards

Hazardous to the Aquatic : Category 2

Environment - Long Term 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

H315 Causes skin irritation

H319 Cause serious eye irritation

H317 May cause an allergic skin reaction

H335 May cause respiratory irritation.

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]

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.

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

P273 Avoid release to the environment.

[Response]

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.

P314 Get medical advice/attention if you feel unwell.

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 reuse.

P391 Collect spillage.

[Storage]

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

[Disposal]

P501 Dispose of contents/container in accordance with

local/regional/national/international regulation (to be specified).

[Other Information]

Hazards not otherwise classified (HNOC)

Not Applicable

3. Composition / Information on Ingredients

Common name and synonyms: No data available

Pure substance/mixture: Mixture

No Chemical Name Wt%	CAS No.
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1	(5-ethyl-1,3-dioxan-5-yl)methyl acrylate	40-50	66492-51-1
2	isodecyl acrylate	10-20	1330-61-6
3	1-vinylhexahydro-2H-azepin-2-one	10-20	2235-00-9
	Poly[oxy(methyl-1,2-ethanediyl)],		
4	α,α' -(2,2-dimethyl-1,3-propanediyl)bis[ω -[5-10	84170-74-1
	(1-oxo-2-propen-1-yl)oxy]-		
5	ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate	5-10	84434-11-7
6	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	0.3-1	162881-26-7
8	2,5-di-tert-butylhydroquinone	0.1-0.3	88-58-4

First Aid Measures

[First aid measures]

: Immediately flush eyes with plenty of water, occasionally lifting the Eye Contact

upper and lower eyelids. Check for and remove any contact lenses.

Continue to rinse for at least 10 minutes. Get medical attention

Inhalation Remove victim to fresh air and keep at rest in a position comfortable

for breathing. If not breathing, if breathing is irregular or if

respiratory arrest occurs, provide artificial respiration or oxygen by

trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention

following exposure or if feeling unwell. If unconscious, place in

recovery position and get medical attention immediately. Maintain

an open airway. Loosen tight clothing such as a collar, tie, belt or

waistband. In case of inhalation of decomposition products in a fire,

symptoms may be delayed. The exposed person may need to be kept

under medical surveillance for 48 hours.

Skin Contact : Wash with plenty of soap and water. Remove contaminated clothing

and shoes. Wash contaminated clothing thoroughly with water

before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or

symptoms, avoid further exposure. Wash clothing before reuse.

Clean shoes thoroughly before reuse.

: Wash out mouth with water. Remove dentures if any. If material has

been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as

vomiting may be dangerous. Do not induce vomiting unless directed

Ingestion



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to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Maintain an open airway. Loosen tight clothing such as a collar, tie,

belt or waistband.

[Most important symptoms and effects, both acute and delayed]

[Potential acute health effects]

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

[Over-exposure signs/symptoms]

Eye contact : Adverse symptoms may include the following:

pain or irritation

watering redness

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

Skin contact : Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

[Indication of any immediate medical attention and special treatment needed]

Note To Physician : In case of inhalation of decomposition products in a fire, symptoms

may be delayed. The exposed person may need to be kept under

medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without

suitable training. If it is suspected that fumes are still present, the

rescuer should wear an appropriate mask or self-contained

breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.



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Fire Fighting Measures

: Use CO2, dry chemical, or foam. Use extinguishing measures that Extinguishing Media

are appropriate to local circumstances and the surrounding

environment.

Unsuitable Extinguishing : None known.

Media

Specific hazards arising : In a fire or if heated, a pressure increase will occur and the container

from the chemical may burst.

Hazardous thermal : Decomposition products may include the following materials:

decomposition products carbon dioxide

> carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides

Special protective actions

for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving

any personal risk or without suitable training.

Special protective

equipment 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]

For non-emergency : No action shall be taken involving any personal risk or without suitable

personnel training. Evacuate surrounding areas. Keep unnecessary and

> unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is

inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of

any information in Section 8 on suitable and unsuitable materials. See

also the information in "For nonemergency personnel".

Environmental : Avoid dispersal of spilled material and runoff and contact with soil,

waterways, drains and sewers. Inform the relevant authorities if the precautions

product has caused environmental pollution (sewers, waterways,



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soil or air).

[Methods and material for containment and cleaning up]

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with

water and mop up if water-soluble. Alternatively, or if water-insoluble,

absorb with an inert dry material and place in an appropriate waste

disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach

release from upwind. Prevent entry into sewers, water courses,

basements or confined areas. Wash spillages into an effluent treatment

plant or proceed as follows. Contain and collect spillage with

non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to

local regulations (see Section 13). Dispose of via a licensed waste

disposal contractor. Contaminated absorbent material may pose the $\,$

same hazard as the spilled product. Note: see Section 1 for emergency

contact information and Section 13 for waste disposal.

7. Handling and Storage

[Precautions for safe handling]

Protective measures

Advice on general

occupational hygiene

: Put on appropriate personal protective equipment (see Section 8).

Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure

- obtain special instructions before use. Avoid exposure during

pregnancy. Do not handle until all safety precautions have been read

and understood. Do not get in eyes or on skin or clothing. Do not

breathe vapor or mist. Do not ingest. If during normal use the

material presents a respiratory hazard, use only with adequate

ventilation or wear appropriate respirator. Keep in the original

container or an approved alternative made from a compatible

material, kept tightly closed when not in use. Empty containers

retain product residue and can be hazardous. Do not reuse container.

: Eating, drinking and smoking should be prohibited in areas where

this material is handled, stored and processed. Workers should wash

hands and face before eating, drinking and smoking. Remove

contaminated clothing and protective equipment before entering

eating areas. See also Section 8 for additional information on hygiene

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measures.

Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Exposure Controls / Personal Protection

[Control parameters]

Occupational exposure limits

None

controls

Appropriate engineering : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

[Individual protection measures, such as personal protective equipment]

Respiratory Protection



Glove

Recommendations



: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of



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mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Eye /Face Protection

Safety Glasses : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin Protection



Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

General Hygiene Considerations Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

[Information on basic physical and chemical properties]

Appearance - Physical State : liquid

- Color : Light brown

Odor
Odor Threshold

PH

No data available

Flash point : 105 °C / 221 °F (Estimated from the ingredient flash

point)

Evaporation rate : No data available



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Flammability (solid, gas) : No data available

Flammability Limits in Air

Upper flammability limits : No data available
Lower flammability limit : No data available
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

Decomposition temperature : No data available

Kinematic viscosity : No data available

Dynamic viscosity : 10-20mPa·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.

Possibility of Hazardous : No information available.

Reactions

Hazardous polymerization : None under normal processing.

Conditions to Avoid : No information available.

Incompatible Materials : No information available.

Hazardous Decomposition : Under normal conditions of storage and use, hazardous

Products decomposition products should not be produced.

11. Toxicological Information

[Information on likely routes of exposure]



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Acute toxicity : Not available.

Irritation/Corrosion : Not available.

Sensitization : Not available.

Chemical Name	Category	Route of
		exposure
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate	Category 1B	SKIN
1-vinylhexahydro-2H-azepin-2-one	Category 1B	SKIN
isodecyl acrylate	Category 1B	SKIN
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Category 1A	SKIN
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Category 1	SKIN
Poly[oxy(methyl-1,2-ethanediyl)], α , α '-	Category 1B	SKIN
(2,2-dimethyl-1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]-		
hexamethylene diacrylate	Category 1	SKIN
2,5-di-tert-butylhydroquinone	Category 1B	SKIN

Mutagenicity : Not available.

Carcinogenicity : Not available.

Reproductive toxicity : Not available.

Specific target organ toxicity (single exposure)

Chemical Name	Category	Route of	Target organs
		exposure	
isodecyl acrylate	Category 3	-	respiratory
			tract
			irritation
2,5-di-tert-butylhydroquinone	Category 3	-	respiratory
			tract
			irritation

Specific target organ toxicity(repeated exposure)

Chemical Name	Category	Route of	Target organs
		exposure	
1-vinylhexahydro-2H-azepin-2-one	Category 1	-	liver,
			respiratory
2,5-di-tert-butylhydroquinone	Category 2	-	tract
			blood

Aspiration hazard : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.



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Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic

skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:

Pain or irritation

watering redness

Inhalation : No specific data

Skin contact : Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

: Not available.

General : Causes damage to organs through prolonged or

repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently

exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

[Numerical measures of toxicity]

Acute toxicity estimates



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Chemical Name	Oral	Dermal	Inhalation
	LD50(mg/kg)	LD50(mg/kg)	LC50
Product	2780.7	5078.4	N/A
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate	2500	N/A	N/A
1-vinylhexahydro-2H-azepin-2-one	1114	1700	N/A
Isodecyl acrylate	N/A	3140	N/A
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	2500	2500	N/A
Propylidynetrimethanol, ethoxylated, esters with	2000.1	N/A	N/A
acrylic acid			
Poly[oxy(methyl-1,2-ethanediyl)],	N/A	2500	N/A
α,α' -(2,2-dimethyl-			
1,3-propanediyl)bis[ω-[(1-oxo-2-propen-1-yl)oxy]-			
2,5-di-tert-butylhydroquinone	1000	N/A	N/A

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.

Persistence and : No data available.

degradability

Bioaccumulation : No data available.

Mobility : No data available.

Other adverse effects : No data available.

13. Disposal Considerations

[Waste treatment methods]

Disposal Methods

Entry the generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Waste packaging should be recycled. Incineration or landfill should



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only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

[DOT]

UN/ID no : UN3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Cyclic

Trimethylolpropane Formal Acrylate)

Hazard Class : 9
Packing Group : III

Special Provisions : 8, 146, 173, 335, IB3, T4, TP1, TP29

Emergency Response Guide : 171

Number

Description : UN3082, Environmentally hazardous substance, liquid, n.o.s.

(Cyclic Trimethylolpropane Formal Acrylate), 9, III

[TDG]

UN/ID no : UN3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Cyclic

Trimethylolpropane Formal Acrylate)

Hazard Class : 9
Packing Group : III

Marine pollutant : This material meets the definition of a marine pollutant

Description : UN3082, Environmentally hazardous substance, liquid, n.o.s.

(Cyclic Trimethylolpropane Formal Acrylate), 9, III

[MEX]

UN/ID no : UN3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Cyclic

Trimethylolpropane Formal Acrylate)

Hazard Class : 9



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Packing Group : III

Special Provisions : 274, 331, 335

Description : UN3082, Environmentally hazardous substance, liquid, n.o.s.

(Cyclic Trimethylolpropane Formal Acrylate), 9, III

[IATA]

UN/ID no : UN3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Cyclic

Trimethylolpropane Formal Acrylate)

Hazard Class : 9

Packing Group : III

Special Provisions : A197 *1

Description : UN3082, Environmentally hazardous substance, liquid, n.o.s.

(Cyclic Trimethylolpropane Formal Acrylate), 9, III

[IMDG]

UN/ID no : UN3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Cyclic

Trimethylolpropane Formal Acrylate)

Hazard Class : 9

Packing Group : III

EmS-No : F-A, S-F Special Provisions : 2.10.2.7 *1

Marine pollutant : This material meets the definition of a marine pollutant

Description : UN3082, Environmentally hazardous substance, liquid, n.o.s.

(Cyclic Trimethylolpropane Formal Acrylate), 9, III

Environmental hazard : Yes

*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

Singapore - hazardous : None.

chemicals under government

control

16. Other Information



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Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of

Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution

From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available

SGG = Segregation Group

UN = United Nations

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