



Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name (Trade Name): UV Curable Ink Jet Ink
 Synonyms: UV Ink
 Product Uses: Industrial Ink Jet Ink
 Manufacturer: LIAN-XING-FA INDUSTRY LIMITED
 Address : NO.629, Sec.1., Chongde Rd.,North
 Dist.,TAICHUNG CITY 40452, TAIWAN (R.O.C.)
 Phone : 886-4-22386050 Fax : 886-4-22386358
 Emergency Phone:: 886-4-22386050

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Monoalkyl of Acrylate	Proprietary	10 ~ 50
1,6 Hexanediol Diacrylate	13048-33-4	5 ~ 40
2,4,6-Trimethylbenzoyldiphenylphosphine	75980-60-8	1 ~ 5
2-Hydroxy-4-Hydroxyethoxy-2-Methylpropio phenone	106797-53-9	1 ~ 5
2-Methyl-1[4-(methylthio)phenyl]-2-morphol inopropan-1-one	71868-10-5	1 ~ 10
Pigment	Proprietary	1 ~ 5
Additive	Proprietary	1 ~ 7

SECTION 3: HAZARDS IDENTIFICATION

- Inhalation:**
1. Exposure to vapors is unlikely due to low vapor pressure of ingredients.
 2. Inhalation of mist, aerosols, or vapors may result in irritation of respiratory tract, coughing, shortness of breath and dizziness.
- Skin:**
1. May cause moderate skin injury (reddening and swelling) and/or sensitization.
 2. Prolonged contact may cause blister formation (burns) and dermatitis.
 3. Irritation may not occur immediately, contact can go unnoticed.
 4. Contains materials that may be slightly toxic if absorbed through skin.
- Eyes:**
1. May cause eye injury which may persist for several days.
 2. May cause painful burning or stinging of eye and lids, watering of eye and inflammation of conjunctiva.



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Ingestion: 1. May cause irritation of mouth and throat, nausea and vomiting.
2. Contains material that may be slightly toxic.

Medical conditions known to be aggravated by overexposure: lung conditions, sensitizations, or allergies, skin and eye conditions.

Chronic effects: Based on animal studies, repeated or prolonged exposure to the photo-initiator may cause skin, blood, liver, kidney and testicular effects.

SECTION 4: FIRST AID MEASURES

Inhalation: Remove victim to a well ventilated area. Give oxygen or artificial respiration as required. Treat symptomatically and consult physician.

Skin: Remove contaminated clothing. Wash thoroughly with mild soap and warm water. Consult a physician if there is any persisting irritation.

Eyes: Flush with copious amounts of water for at least fifteen minutes. Consult physician.

Ingestion: Drink two glasses of water to dilute. Do not induce vomiting. Consult physician or poison control center immediately. Never give anything by mouth to an unconscious person. Treat symptomatically. Be prepared to provide the attending physician with a copy of this document.

Special Notes to Attending Physician: There is no specific antidote. Treatment of overexposure should be directed at control of the symptoms and the clinical condition.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media: Class "B" fire extinguisher used per instructions (alcohol foam, CO₂, dry chemical, water fog).

Unusual fire and explosion hazards:

High temperatures/inhibitor depletion/accidental impurities/exposure to radiation/oxidizers may cause spontaneous polymerizing reaction, generating heat/pressure. Closed containers may rupture/explode during runaway polymerization.

Special Firefighting Procedures:



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Do not enter fire area without proper protection. See section on decomposition products possible. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Water may be ineffective in firefighting due to low solubility. Use water spray/fog for cooling. Pressure relief system may plug with solids, increasing risk of overpressure. Notify authorities if liquid enters sewer/public waters.

SECTION 6: ACCIDENTAL RELEASE MEASURES

1. Spilled/released material may polymerize and release heat/gases.
2. Wear proper personal protection equipments.
3. Extinguish all ignition sources.
4. Blanket with firefighting foam.
5. Impound/recover large land spill.
6. Soak up small spill with inert solids
7. On water, contain/minimize dispersion/collect.
8. Report per regulatory requirements.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid skin or eye contact. Wash hands before eating, using tobacco products, or using the washroom. Tobacco and food should be consumed in designated areas only.

Storage requirements: Store in a cool, dry, well-ventilated area, away from incompatible materials and conditions. Avoid prolonged storage at temperatures in excess of 86°F(30°C).

Other precautions: Leather gloves, aprons, belts, or boots may be permeated by these materials, causing delayed and persistent irritation or chemical burns. Leather items item should be disposed of, once contaminated. Protect against the inhalation of dust or particles generated by sanding, blasting, or abrading of the dried coating.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Due to low vapor pressure, inhalation is not considered an occupationally significant route of exposure, however, a NOISH-approved respirator is recommended for operations resulting in excess organic vapors in the breathing zone.



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Ventilation requirements: Local exhaust recommended when appropriate to control exposure to mist or aerosols. General exhaust is normally adequate to minimize exposure to vapors.

Respiratory protection: Use NOISH approved respirators. Half face piece or full face air purifying respirator with organic vapor cartridges.

Protective gloves: Rubber or neoprene to minimize skin contact.

Eye protection: Safety goggles or full face shield whenever a splash hazard is presented.

Other protective equipment: Impermeable aprons and boots. Safety shower and eye bath should be made available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form: Liquid	General Physical Form: Liquid
Color: Y/M/C/K	Odor: Acrylic odor
pH: N/AV	Boiling Point: > 120 °C
Decomposition Temperature: N/AV	Flash Point: > 120°C (Test Method: Closed Cup)
Auto-ignition Temperature: N/AV	Flammable Limits: N/AV
Vapor Pressure: < 1 mmHg@20°C	Vapor Density: (Air = 1) > 1
Specific Gravity: 1.02 ~ 1.06	Solubility in Water: Negligible

SECTION 10: STABILITY AND REACTIVITY

Stability: This mixture is potentially unstable and hazardous polymerization may occur if exposed to incompatible materials and conditions of reactivity.

Incompatible materials: Strong acids, oxidizers, alkali metal hydroxides, polymerization initiators, peroxides, inert gases.



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Conditions to reactivity: Extreme temperatures, direct sunlight, x-ray sources, electron beam sources, or ultraviolet radiation sources.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, mixed oxide of nitrogen, oxides of phosphorus.

SECTION 11: TOXICOLOGICAL INFORMATION

Hazardous Component	LC50 (oral, rat)	LD50 (dermal, rat)
Monoalkyl of Acrylate	78000mg/m ³ /4hr	7,800 mg/kg
1,6 Hexanediol Diacrylate	N/AV	5,000 mg/kg
2,4,6-Trimethylbenzoyldiphenylphosphine	N/AV	> 5g/kg
2-Hydroxy-4-Hydroxyethoxy-2-Methylpropiophenone	N/AV	4,082 mg/kg
2-Methyl-1[4-(methylthio)phenyl]-2-morpholinopropan-1-one	N/AV	N/AV

SECTION 12: ECOLOGICAL INFORMATION

Environmental precautions: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Product of degradation: These products are carbon oxides (CO,CO₂) and water, nitrogen oxides (NO, NO₂ etc.), phosphates.

Toxicity of the products: The products of degradation are less toxic than the biodegrading product itself.

SECTION 13: DISPOSAL CONSIDERATION

Waste Disposal Method: Incinerate in an industrial or commercial facility in the presence of a combustible material. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.



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EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

DOT Classification

UN Number: Not Available

Proper Shipping Name: Not Available

Class: Not Available

Packing Group: Not Available

General: Not Regulated

SECTION 15: REGULATORY INFORMATION

International Regulation

Contact LIAN-XING-FA INDUSTRY LIMITED for more information.

SECTION 16 OTHER INFORMATION

NAPA Hazard Classification

Health: 2, Flammability: 1, Reactivity: 2, Special Hazards: None

This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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