

# Material Safety Data Sheets

## 1. Product and Company Identification

Product Name	: UV ink LF-200 Yellow
Product Code	: SPC-0558Y, 0591Y
General Use	: Inkjet Ink
Product Description	: UV Inkjet Ink
MSDS Number	: 031-34U05YC
Manufacture	
Company Name	: MIMAKI ENGINEERING Co., Ltd
Address	: 2182-3 Otsu, Shigeno, 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.	: +81-268-64-2413

## 2. Hazards Identification

Emergency Overview	: Closed containers exposed to heat from fire may build pressure and explode. Hazardous polymerization may occur. May cause severe eye irritation. May cause allergic skin reaction. May cause severe skin irritation. Contains a chemical or chemicals which can cause cancer. Contains a chemical or chemicals which can cause birth defects or other reproductive effects.
Potential Health Effects	
Inhalation	: Respiratory Tract Irritation Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Eye Contact	: Severe Eye Irritation Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.
Skin Contact	: Severe Skin Irritation Signs/symptoms may include localized redness, swelling, itching,

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dryness, cracking, blistering, and pain.

: Allergic Skin Reaction (non-photo induced)

Signs/symptoms may include redness, swelling, blistering, and itching.

Ingestion

: Gastrointestinal Irritation

Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogens

: Contains a chemical or chemicals which can cause cancer.

Ingredient	: Nickel Alloys
CAS No.	: Trade Secret
Class Description	: Group 2B
Regulation	: International Agency for Research on Cancer

Medical Conditions

: Contains a chemical or chemicals which can cause birth defects or other reproductive effects.

HMIS Rating (scale 0 – 4)

Not available

NFPA Rating (scale 0 – 4)

Health: 2  
 Flammability: 1  
 Instability: 2  
 Special: None



### 3. Composition / Information On Ingredients

No.	Chemical Name	Wt%	CAS No.	Chemical Formula
1	Isobornyl Acrylate	50-60	5888-33-5	C <sub>13</sub> H <sub>20</sub> O <sub>2</sub>
2	Amine Modified Acrylate Oligomer	10-20	Trade Secret	Trade Secret
3	Tetrahydrofurfuryl Acrylate	5.0-20	2399-48-6	C <sub>8</sub> H <sub>12</sub> O <sub>3</sub>
4	2,4,6-Trimethylbenzoyldiphenylphosphine oxide	5.0-15	75980-60-8	C <sub>22</sub> H <sub>21</sub> O <sub>2</sub> P
5	Diethylene Glycol Ethyl Ether Acrylate	5.0-15	7328-17-8	C <sub>9</sub> H <sub>16</sub> O <sub>4</sub>
6	Substituted Triazine	1.0-10	Trade Secret	Trade Secret
7	Azo Nickel Complex Pigment	1.0-10	Trade Secret	C <sub>8</sub> H <sub>6</sub> N <sub>6</sub> O <sub>6</sub> Ni
8	9H-Thioxanthen-9-one,2,4-diethyl-	1.0-10	82799-44-8	C <sub>17</sub> H <sub>16</sub> OS
9	Acrylic Ester	<5.0	Trade Secret	Trade Secret
10	4-Methoxyphenol	<0.5	150-76-5	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>

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### 4. First Aid Measures

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Inhalation	: Remove person to fresh air. If signs/symptoms develop, get medical attention.
Eye Contact	: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.
Skin Contact	: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.
Ingestion	: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

### 5. Fire Fighting Measures

Flammable Properties	Autoignition temperature	: No Data Available
	Flash Point	: >200 degree Fahrenheit [Test Method: Closed Cup]
	Flammable Limits – LEL	: No Data Available
	Flammable Limits – UEL	: No Data Available
Extinguishing Media	: Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).	
Protection of Fire Fighters		
Special Fire Fighting Procedures	: Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).	
Unusual Fire and Explosion Hazards	: Closed containers exposed to heat from fire may build pressure and explode.	

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Note: See Stability and Reactivity (SECTION 10) for hazardous combustion and thermal decomposition information.

### 6. Accidental Release Measures

Observe precautions from other sections.

Evacuate unprotected and untrained personnel from hazard area.

The spill should be cleaned up by qualified personnel.

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.

Contain spill.

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

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 appears dry.

Collect as much of the spilled material as possible.

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 MSDS.

Collect the resulting residue containing solution.

Place in a closed container approved for transportation by appropriate authorities.

Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state and federal regulations.

### 7. Handling And Storage

Handling : Do not eat, drink or smoke when using this product.  
Wash exposed areas thoroughly with soap and water.  
Avoid breathing of vapors, mists or spray.  
Avoid skin contact.  
Avoid eye contact with vapors, mists, or spray.

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Storage : Avoid contact with oxidizing agents.  
 : Store away from heat.  
 Store out of direct sunlight.  
 Store away from oxidizing agents.

## 8. Exposure Controls / Personal Protection

### Exposure Limit Values

No.	Chemical Name		TWA	Additional Information
1	4-Methoxyphenol	ACGIH	5.0mg/m <sup>3</sup>	Table Z-1A
		OSHA	5.0mg/m <sup>3</sup>	
2	Nickel, Insoluble Compounds	ACGIH	0.2mg/m <sup>3</sup> as Ni, inhalable fraction	Table A1
		OSHA	1.0mg/m <sup>3</sup> , as Ni	
3	Nickel, Soluble Compounds	ACGIH	0.1mg/m <sup>3</sup> as Ni, inhalable fraction	Table A4
		OSHA	0.1mg/m <sup>3</sup> , as Ni	

Source of exposure limit data:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

### Exposure Controls

#### Occupational Exposure Controls

Engineering Controls : Provide local exhaust ventilation at transfer points.  
 Provide Appropriate local exhaust when product is heated.  
 Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

#### Personal Protection

Respiratory Protection : Avoid breathing of vapors, mists or spray.



Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations:

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### Eye/Face Protection



Half facepiece or fullface air-purifying respirator with organic vapor cartridges.

: Avoid eye contact with vapors, mists, or spray. The following eye protection(s) are recommended:

Safety Glasses with side shields, Indirect Vented Goggles.(Goggles recommended when a splash potential exists.)

### Skin Protection



: Wear appropriate gloves, such as Nomex, when handling this material to prevent thermal burns.

Avoid skin contact.

Avoid skin contact with hot material.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment.

Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Nitrile Rubber.

### Prevention of Swallowing

: Do not eat, drink or smoke when using this product.

Wash exposed areas thoroughly with soap and water.

## 9. Physical And Chemical Properties

Appearance	- Physical state	: Liquid
	- Color	: Yellow
Odor		: Acrylate odor
pH		: Not Applicable
Boiling Point / Boiling Range		: >200 degree F
Melting Point / Melting Range		: Not Applicable
Flash Point		: >200 degree F [Test Method: Closed Cup]
Autoignition Temperature		: No data available
Flammable Limits		: No data available
Vapor Pressure		: <10 mmHg [20 degree C]
Specific Gravity		: 1.04 [Ref Std: WATER=1]
Water Solubility		: Negligible
Viscosity		: 7~11mPa·s (45 degree C)
Vapor Density		: >1 [ref Std: Air=1]

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### 10. Stability And Reactivity

Stability	: Stable	
Materials and Conditions to avoid	: Strong oxidizing agents; Heat	
Hazardous Polymerization	: Hazardous polymerization may occur. (Upon depletion of inhibitor or exposure to heat)	
Hazardous Decomposition or By-Products	Substance	Condition
	Carbon monoxide	During Combustion
	Carbon dioxide	During Combustion

### 11. Toxicological Information

Acute Toxicity	: Not available
Eye Irritation	: May cause severe eye irritation.
Skin Irritation	: May cause severe skin irritation.
Inhalation	: The irritation of the respiratory system.
Ingestion	: A gastrointestinal tract organization may be irritated.
Sensitization	: May cause allergic skin irritation.
Mutagenicity	: Not available
Carcinogenicity	: May cause cancer; Nickel Compounds (CAS No. Trade Secret) (IARC: 2B)
Reproductive and Developmental Toxicity	: Contains a chemical or chemicals which can cause birth defects or other reproductive effects

### 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	: Not available
Persistence and Degradability	: Not available
Bioaccumulative Potential	: Not available
Other Adverse Effects	: Not available

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### 13. Disposal Considerations

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

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

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

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before.

### 14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

UN, IMO, ICAO: Not regulated

### 15. Regulatory Information

US Federal regulations

Section 311/312 : Fire Hazard-No Pressure Hazard-No Reactivity Hazard-No  
 (40 CFR 370) Immediate Hazard – Yes Delayed Hazard – Yes

Section 313 : Subject to the reporting requirements of this section and that.

(40 CFR 372) EPCRA

Ingredient	Diethylene Glycol Ethyl Ether Acrylate	
CAS No.	7328-17-8	
Wt%	5.0-15	

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

TSCA Section12[b] : Requirements of export notification

Ingredient	4-Methoxyphenol	9H-Thioxanthen-9-one,2,4-diethyl-
CAS No.	150-76-5	82799-44-8
Regulation	TSCA4 Test Rule Chemicals	TSCA5 SNUR or Consent Order Chemicals
States	Applicable	Applicable



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TSCA Section 5 : EPA Significant New Use Rule Regulation

Ingredient	9H-Thioxanthen-9-one,2,4-diethyl-
CAS No.	82799-44-8
Reference	63FR3393

## State Regulations

California Proposition	Ingredient	Nickel Compounds
65	CAS No.	Trade Secret
	Classification	Carcinogen – Contains a chemical which cause cancer.

Please refer to any other USA, national and local measures.

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

## 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.

## Revision history

Version	Date	Content
1.0	2008/08/28	First issue
2.0	2009/07/24	Revised