



Product Name: UVink LF-200 Black

MSDS No. 031-37U05KC

First issue: 2011/04/07

Revised: 2011/10/11

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Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

1. Product and Company Identification

Product Name	: UV ink LF-200 Black
Product Code	: SPC-0558K-5,SPC-0591K-5,SPC-0660K-5
General Use	: Inkjet Ink
Product Description	: UV Inkjet Ink
MSDS Number	: 031-37U05KC
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:	Specific Physical Form: Liquid Odor, Color, Grade: Acrylate Odor, Black Color General Physical Form: Liquid Immediate health, physical, and environmental hazards: 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 harm.
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Potential Health Effects

Inhalation:	Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Eye Contact:	Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
Skin Contact:	Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. 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.
Target Organ Effects:	Contains a chemical or chemicals which can cause birth defects or other reproductive harm.
Carcinogens:	Ink : No data available Ingredient: Contains a chemical or chemicals which can cause cancer.

Chemical Name : CARBON BLACK

CAS No. : 1333-86-4

Class Description : Group 2B Possible humancarc.

Regulation : International Agency for Research on Cancer

HMIS Rating (scale 0 – 4)

Not available

NFPA Rating (scale 0 – 4)

Health: 2

Flammability: 1

Instability: 2

Special: None



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3. Composition / Information On Ingredients

No	Chemical Name	Wt%	CAS No.	Chemical Formula
1	ISOBORNYL ACRYLATE	15-25	5888-33-5	C ₁₃ H ₂₀ O ₂
2	TETRAHYDROFURFURYL ACRYLATE	15-25	2399-48-6	C ₈ H ₁₂ O ₃
3	DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	5 - 15	7328-17-8	C ₉ H ₁₆ O ₄
4	2,4,6-Trimethylbenzoyldiphenylphosphine oxide	1-10	75980-60-8	C ₂₂ H ₂₁ O ₂ P
5	1,6-HEXANEDIOL DIACRYLATE	1-10	13048-33-4	C ₁₂ H ₁₈ O ₄
6	SUBSTITUTED TRIAZINE	1-10	Trade Secret	Unspecified
7	AMINE MODIFIED ACRYLATE OLIGOMER	1-10	Trade Secret	Unspecified
8	9H-Thioxanthen-9-one, 2,4-diethyl-	1-10	82799-44-8	C ₁₇ H ₁₆ OS
9	CARBON BLACK	1-5	1333-86-4	Unspecified
10	PHENOXY ETHYL ACRYLATE	<5	48145-04-6	C ₁₁ H ₁₂ O ₃

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: Flush eyes with large amounts of water. If signs/symptoms persist, get 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.

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5. Fire Fighting Measures

Flammable Properties	Auto ignition 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.	

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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.

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Environmental precautions

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

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 skin contact with hot material.

Avoid eye contact with vapors, mists, or spray. Do not breathe vapors.

Avoid contact with oxidizing agents.

Storage:

Store away from heat. Store out of direct sunlight.

Store away from areas where product may come into contact with food or pharmaceuticals.

Store away from oxidizing agents.

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8. Exposure Controls / Personal Protection

Exposure Limit Values

Chemical Name		TWA	Additional Information
1,6-HEXANEDIOL DIACRYLATE	AIHA	1mg/m ³	Dermal Sensitizer
	ACGIH	3.5mg/m ³	Table A4
CARBON BLACK	CMRG	0.5mg/m ³	
	OSHA	3.5mg/m ³	Table Z-1
TETRAHYDROFURFURYL	3M	0.1 ppm	
ACRYLATE	3M	STEL 0.3 ppm	

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. Use in an enclosed process area is recommended. Provide appropriate local exhaust when product is heated. Do not use in a confined area or areas with little or no air movement. 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. Do not breathe vapors.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges.

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Eye/Face

Avoid eye contact with vapors, mists, or spray.

Protection:

The following eye protection(s) are recommended:



Safety Glasses with side shields, Indirect Vented Goggles.

(Goggles recommended when a splash potential exists.)

Skin Protection :

Avoid skin contact. Avoid skin contact with hot material. Wear



Gloves



Protective Apron

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

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

Do not eat, drink or smoke when using this product. Wash exposed areas

Swallowing :

thoroughly with soap and water. Not applicable.

9. Physical And Chemical Properties

Appearance	- Physical state	: Liquid
	- Color	: Black
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]
Auto-Ignition Temperature		: No data available
Flammable Limits		: No data available
Vapor Pressure		: <10 mmHg [20 degree C]
Density		: 1.04g/ml
Vapor Density		: > 1 [Ref Std: AIR=1]
Water solubility		: Negligible
Viscosity		: 9~11mPa·s (45 deg C)
Specific Gravity		: 1.04 [Ref Std: WATER=1]
Evaporation rate		: No data available

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Kow - Oct/Water partition coef : No data available

Conditions to avoid : Heat

10. Stability And Reactivity

Stability : Stable

Conditions to avoid : Heat

Materials to avoid : Strong oxidizing agents

Hazardous : Hazardous polymerization may occur.

Polymerization (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 : No data available

Eye Irritation : Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Irritation : Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Inhalation : Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion : Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Target Organ Effects : Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Sensitization : No data available

Mutagenicity : No data available

Carcinogenicity : Contains a chemical or chemicals which can cause cancer.

Carbon black : Group2B (IARC)

Ink : Not available



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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 : No data available

Persistence And Degradability : No data available

Bioaccumulative Potential : No data available

Other Adverse Effects : No data available

13. Disposal Considerations

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.

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

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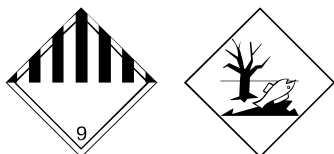
CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

Land transport ADR/RID (cross-border)



ADR/RID class : 9 Miscellaneous dangerous substances and articles.

Danger code (Kemler) : 90

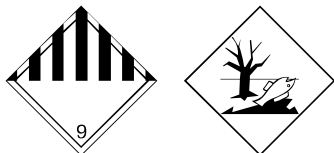
UN-Number : 3082

Packaging group : III

Hazard label : 9

Description of goods : 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.

Sea Transport (IMDG)



Class : 9

Packing Group (PG) : III

UN Number : 3082

Proper Shipping : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

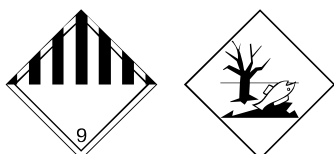
Name : N.O.S.

Marine Pollutant : No

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Air Transport (ICAO/IATA)



Class : 9

Packing Group(PG) : III

UN Number : 3082

Proper Shipping Name : Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

UN "Model Regulation"

:UN3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.; 9; III

Special precautions for user

:Warning: Miscellaneous dangerous substances and articles

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

: Not applicable.

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 – NO

Section 313 Toxic : DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE (GLYCOL
Chemicals subject to the ETHERS) CAS No. 7328-17-8 % by Wt - 5 - 15
reporting requirements PHENOXY ETHYL ACRYLATE (GLYCOLEETHERS) CAS No.
of that section and 40 48145-04-6 % by Wt - < 5

CFR part 372 (EPCRA)

This material contains a : (Category if applicable) 9H-Thioxanthen-9-one, 2,4-diethyl- C.A.S.
chemical which requires No. 82799-44-8 Toxic Substances Control Act (TSCA) 5
export notification under SNUR or Consent Order Chemicals Status - Applicable
TSCA Section 12[b]



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This material contains a : (Category if applicable) 9H-Thioxanthen-9-one, 2,4-diethyl- C.A.S.
chemical regulated by No. 82799-44-8 Reference - 40CFR721.9664
an EPA Significant New

Use Rule

(TSCA Section 5)

State Regulations

California Proposition : CARBON BLACK CAS No.1333-86-4 Classification – Carcinogen*
65 *contains a chemical which can cause cancer.

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

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	2011/04/07	First issue
2.0	2011/10/11	Revised (14.Transport Information)