

Safety Data Sheets

1. Identification

Product Name : Latex ink LX101 Orange
Order No. : LX101-Or-60
Ink Ver. : 1
General Use : Ink for ink jet printer
Product Description : Aqueous ink
SDS Number : 037-W350537
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 USA
Company Name : MIMAKI USA, INC.
Address : 150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A.
Telephone No. : +1-678-730-0170
Emergency Telephone No. : +81-268-64-2281

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids : Not classified

Health Hazards

Skin Corrosion / Irritation : Category 2

Eye Damage / Irritation : Category 2A

Specific Target Organ Toxicity : Category 3 (Respiratory tract irritation)
(Single Exposure)

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

[GHS Label Elements]

Symbol



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Signal Word

Warning

Hazard Statements

H315 Cause skin irritation

H319 Cause serious eye irritation

H335 May cause respiratory irritation.

Precautionary Statements

[Prevention]

P261 Avoid breathing gas/mist.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

[Response]

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P332+P313 If skin irritation 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.

[Storage]

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

P405 Store locked up.

[Disposal]

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

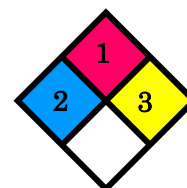
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 1

Instability = 3

Special = None



3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Glucol ether solvents	10-20	Trade Secret
2	Alcohol solvent series	23-27	Trade Secret
3	diethylene glycol	3-5	111-46-6
4	Pigment	1-5	Trade Secret

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5	Organic ingredient	1-5	Trade Secret
6	Methyldiethanolamine	0.1-1.5	105-59-9

4. First Aid Measures

Description of first aid measures

- Eye Contact** : If this product comes in contact with the eyes:
 Wash out immediately with fresh running water.
 Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 Seek medical attention without delay; if pain persists or recurs seek medical attention.
 Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
- Skin Contact** : If skin contact occurs:
 Immediately remove all contaminated clothing, including footwear.
 Flush skin and hair with running water (and soap if available).
 Seek medical attention in event of irritation.
- Inhalation** : If fumes or combustion products are inhaled remove from contaminated area.
 Lay patient down. Keep warm and rested.
 Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
 Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
 Transport to hospital, or doctor, without delay.
- Ingestion** : If swallowed do NOT induce vomiting.
 If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
 Observe the patient carefully.
 Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
 Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

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Seek medical advice.

Most important symptoms and effects, both acute and delayed

See Section 11.

5. Fire Fighting Measures

Extinguishing Media : Alcohol stable foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide. Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility : Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting : Alert Fire Brigade and tell them location and nature of hazard.
Wear full body protective clothing with breathing apparatus.
Prevent, by any means available, spillage from entering drains or water course.
Use water delivered as a fine spray to control fire and cool adjacent area.
Avoid spraying water onto liquid pools.
DO NOT approach containers suspected to be hot.
Cool fire exposed containers with water spray from a protected location.
If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard : Slight fire hazard when exposed to heat or flame.
Heating may cause expansion or decomposition leading to violent rupture of containers.
On combustion, may emit toxic fumes of carbon monoxide (CO).
May emit acrid smoke.
Mists containing combustible materials may be explosive.
Combustion products include:
carbon dioxide (CO₂)
other pyrolysis products typical of burning organic material.
May emit poisonous fumes.
May emit corrosive fumes.

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6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

See section 8.

Environmental precautions

See section 12.

Methods and material for containment and cleaning up

Minor Spills

: Slippery when spilt.

Remove all ignition sources.

Clean up all spills immediately.

Avoid breathing vapours and contact with skin and eyes.

Control personal contact with the substance, by using protective equipment.

Contain and absorb spill with sand, earth, inert material or vermiculite.

Wipe up.

Place in a suitable, labelled container for waste disposal.

Major Spills

: Slippery when spilt.

Moderate hazard.

Clear area of personnel and move upwind.

Alert Fire Brigade and tell them location and nature of hazard.

Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water course.

No smoking, naked lights or ignition sources.

Increase ventilation.

Stop leak if safe to do so.

Contain spill with sand, earth or vermiculite.

Collect recoverable product into labelled containers for recycling.

Absorb remaining product with sand, earth or vermiculite.

Collect solid residues and seal in labelled drums for disposal.

Wash area and prevent runoff into drains.

If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

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7. Handling and Storage

Precautions for Safe Handling	: Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. DO NOT allow clothing wet with material to stay in contact with skin
Conditions for Safe Storage, including any Incompatibilities	: Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS. Are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents.

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8. Exposure Controls / Personal Protection

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
diethylene glycol	Diethylene glycol	6.9 ppm	140 ppm	860 ppm

Ingredient	Original IDLH	Revised IDLH
Glucol ether solvents	Not Available	Not Available
Alcohol solvent series	Not Available	Not Available
diethylene glycol	Not Available	Not Available
Pigment	Not Available	Not Available
Organic ingredient	Not Available	Not Available
methyldiethanolamine	Not Available	Not Available

Exposure Controls

Occupational Exposure Controls

Appropriate

: Local exhaust ventilation usually required. If risk of overexposure

Engineering Controls

exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. An approved self contained breathing apparatus (SCBA) may be required in some situations. Provide adequate ventilation in warehouse or closed storage area.

Personal Protection

Respiratory

: Consult with a health and safety professional for specific respirators

Protection

appropriate for your use.



Hand Protection

: Wear chemical protective gloves, e.g. PVC.



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Eye Protection

: Safety glasses with side shields.



Safety Glasses

Chemical goggles.

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin Protection

: Wear appropriate chemical resistant clothing.



Protective Apron

Wear safety footwear or safety gumboots, e.g. Rubber

9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: Orange
Odor		: slight
pH		: 9.3-10.3
Boiling Point / Boiling Range		: Not available
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available
Flash Point		: Not flammable
Flammability (Solid, Gas)		: Not applicable
Explosive Properties		: Not available
Oxidizing Properties		: Not available
Specific Gravity		: 1.02-1.04
Solubility		: Not available
Water Solubility		: Not available
Partition Coefficient (n-octanol / Water)		: Not available
Viscosity		: Not available
Vapor Density		: Not available
Evaporation Rate		: Not available
VOC		: Not available

10. Stability and Reactivity

Reactivity	: No reactivity hazard is expected.
Chemical Stability	: Unstable in the presence of incompatible materials. Product is considered stable.

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Possibility of Hazardous	: Hazardous polymerisation will not occur.
Reactions	
Conditions to Avoid	: Avoid flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.
Incompatible Materials	: Strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents.
Hazardous	: See section 5
Decomposition	

11. Toxicological Information

Acute Toxicity	: methyldiethanolamine
Component Analysis - LD50/LC50	Dermal (rabbit) LD50: 10244 mg/kg Oral (rat) LD50: 1945 mg/kg
	diethylene glycol Dermal (rabbit) LD50: 11890 mg/kg Oral (rat) LD50: 12000 mg/kg
Information on Likely Routes of Exposure	
Inhalation	: Respiratory tract irritation
Ingestion	: no information on significant adverse effects
Skin Contact	: irritation
Eye Contact	: irritation
Immediate Effects	: Skin irritation, eye irritation
Delayed Effects	: Respiratory tract irritation
Medical Conditions	: No information available for the product.
Aggravated by Exposure	
Irritation/Corrosivity	: Skin irritation, eye irritation
Data	
Respiratory	: No information available for the product.
Sensitization	
Dermal Sensitization	: No information available for the product.
Germ Cell Mutagenicity	: No information available for the product.
Carcinogenicity	: No data listed by ACGIH, IARC, NTP, DFG or OSHA is available for the component(s) of this product.
Reproductive Toxicity	: No information available for the product.
Specific Target Organ	: Respiratory tract irritation.

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Toxicity - Single

Exposure

Specific Target Organ : No target organs identified.

Toxicity - Repeated

Exposure

Aspiration Hazard : Not expected to be an aspiration hazard.

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

Product: Not classified

Component Analysis - Aquatic Toxicity

Methyldiethanolamine

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	320mg/L	1
EC50	48	Crustacea	=230mg/L	1
EC50	96	Algae or other aquatic plants	=20mg/L	1
NOEC	96	Fish	=460mg/L	1

Dethylene glycol

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>1000mg/L	1
EC50	48	Crustacea	=84000mg/L	1
NOEC	168	Algae or other aquatic plants	=100mg/L	1

SOURCE: Extracted from 1. IUCLID Toxicity Data

Persistence and : No information available for the product.

Degradability

Bioaccumulation : No information available for the product.

Mobility : No information available for the product.

Other Toxicity : No information available for the product.

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13. Disposal Considerations

	: Comply with all USA, national and local regulations. <u>Do not dump this product into sewers, on the ground or into any body of water.</u>
Disposal Methods	: Dispose in accordance with all applicable regulations.
Component Waste Numbers	: The U.S. EPA has not published waste numbers for this product's components.
Disposal of Contaminated Packaging	: Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

14. Transport Information

	Check a thing without a leak in a container. Perform prevention of collapse of cargo surely.
Land transport (DOT)	: NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Air transport (ICAO-IATA / DGR)	: NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Sea transport (IMDG-Code / GGVSee)	: NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Transport in bulk according to Annex II of MARPOL and the IBC code	: Not Applicable
Marine Pollutant	: NO

15. Regulatory Information

Safety, health and environmental regulations / legislation specific for the substance or mixture
METHYLDIETHANOLAMINE (105-59-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

DIETHYLENE GLYCOL(111-46-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Pennsylvania - Hazardous Substance List

US - Rhode Island Hazardous Substance List



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US AIHA Workplace Environmental Exposure Levels (WEELs)

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	Yes
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

None Reported

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State Regulations

California Proposition 65

: WARNING:



This product can expose you to chemicals including Acetaldehyde, Formaldehyde, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

National Inventory Status

National Inventory	Status
Australia - AICS	Y
Canada - DSL	N
Canada - NDSL	Y
China - IECSC	N
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	N
Philippines - PICCS	N
USA - TSCA	Y

Y = All ingredients are on the inventory

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing

16. Other Information

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.

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