

Safety Data Sheets

1. Identification

Product Name	: POLIXRESIN SX
Order No.	: SPC-0397
General Use	: Adhesive anti-wrinkling agents for textile printing
Product Description	: Adhesive clear liquid
SDS Number	: 037-0030394
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	: 4851 Thurmon Tanner Parkway, STE 100 Flowery Branch, GA 30542, U.S.A.
Telephone No.	: +1-678-730-0170
Emergency Telephone No.	: +1 866 928 0789 (within United States only, Toll free) +1 215 207 0061

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids : Category 2

Health Hazards

Acute Toxicity – Oral : Not classified

Acute Toxicity – Dermal : Not classified

Acute Toxicity – Inhalation : Category 4 (~30% unknown)

Skin Corrosion / Irritation : Category 2

Eye Damage / Irritation : Category 2

Carcinogenicity : Category 2

Toxic to Reproduction : Category 1

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Specific Target Organ Toxicity (Single Exposure) : Category 1 (respirator, liver, kidneys, central nerve system)

Category 2 (blood vascular system)

Category 3 (Narcotic effects)

Specific Target Organ Toxicity (Repeated Exposure) : Category 1 (respirator, nerve system)

Category 2 (hearing organ)

Aspiration Hazard : Category 1

Environmental Hazards

Hazardous to the Aquatic Environment - Acute Hazard : Category 1

Hazardous to the Aquatic Environment - Long Term Hazard : Category 3

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

[GHS Label Elements]

Symbol



Signal Word

Danger

Hazard Statements

H225 Highly flammable liquid and vapour

H304 May be fatal if swallowed and enters airways

H315 Cause skin irritation

H319 Cause serious eye irritation

H332 Harmful if inhaled

H336 May cause drowsiness or dizziness

H351 Suspected of causing cancer

H360 May damage fertility or the unborn child

H370 Causes damage to organs (respirator, liver, central nerve system)

H371 May causes damage to organs(blood vascular system)

H372 Causes damage to organs through prolonged or repeated exposure (respirator, nerve system)

H373 May cause damage to organs through prolonged or repeated exposure (hearing organ)

H400 Very toxic to aquatic life

H412 Harmful to aquatic life with long lasting effects

Precautionary Statements

[Prevention]

P201 Obtain SDS (Safety Data Sheet) and printer's Operation Manual before use.

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P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/sparks/open flames/hot surfaces.-No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe mist/vapours/spray.
 P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 [Response]
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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.
 P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P331 Do NOT induce vomiting.
 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.
 P370+P378 In case of fire: Use dry chemical, carbon dioxide, foam, sand for extinction.
 P391 Collect spillage.
 [Storage]
 P405 Store locked up.
 P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.
 [Disposal]
 P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Polyalkylsiloxane (Silicon resin)	25-35	Trade Secret
2	Cyclohexane	50-65	110-82-7
3	Xylenes	5-10	1330-20-7
4	Ethyl benzene	5-10	100-41-4

4. First Aid Measures

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Inhalation	: If inhaled, immediately remove to fresh air and keep warm and calm. If breathing irregularly or not breathing, give artificial respiration and consult a doctor immediately.
Eye Contact	: Flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Consult a doctor immediately.
Skin Contact	: Wash skin thoroughly with plenty of water. If on clothing, remove immediately contaminated clothing. If no washing or no taking off the clothing, it may cause inflammation on the skin.
Ingestion	: Do not induce vomiting. If swallowed, keep calm and consult a doctor immediately. Keep from swallowing vomit.
Most Important Symptoms/Effects	
Acute	: cough, respiratory paralysis, stomachache, drowsiness, dizziness, unconsciousness, nausea, vomiting, stomach / bowel disorders, collapse, narcosis, headache, excitement, spasms, lethargy, skin irritation, eye irritation, central nervous system damage, respirator damage, liver damage, kidney damage, blood vascular system damage
Delayed	: cancer, reproductive effects, respirator damage, nervous system damage,
Protection To First-Aiders	: Wear tools for appropriate protection. Ventilate. See section 7 and 8.
Note To Physician	: Treat symptomatically and supportively. See section 7 and 8.

5. Fire Fighting Measures

Flammable Properties	: Flash point: $\leq -20^{\circ}\text{C}$ Boiling point: 72°C
Extinguishing Media	: Dry chemical, carbon dioxide, foam, sand
Unsuitable Extinguishing	: Splash water

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Media

- Specific Hazards : This product is easy to extremely burn.
There is a possibility that the container will explode by heating.
- Fire Fighting : Wear full fire-fighting turn-out gear (full bunker gear) and
Instructions respiratory protection (self-contained breathing apparatus).
Stay upwind. Keep people away. Keep wetted with water
surrounding equipment.

6. Accidental Release Measures

- Personal Precautions : Wear tools for appropriate protection.
Keep unnecessary and unprotected personnel from entering in
vicinity of spill. Ventilate. See section 8.
- Land Spill : Promptly remove ignitable, hot, or flammable items. Stop leak if
possible without personal risk. Contain spilled liquid with sand or
earth. DO NOT use combustible materials, such as sawdust. Flush
thoroughly with plenty of water after removing the spills.
Large spills: Dike for later disposal. Keep unnecessary people away,
isolate hazard area and deny entry.
- Water Spill : The material is a water pollutant and should be prevented from
contaminating soil or from entering sewage and drainage systems
and bodies of water.
- Countermeasure to : Remove promptly all ignition sources.
prevent secondary Prevent flow into drainage ditch, sewers, and closed location such as
disasters the basement.

7. Handling and Storage

- Handling : Use proper protection to avoid inhalation, touching eyes, nose, skin,
and apparels. Do not breathe (vapor, mist, spray). Do not eat, drink or
smoke when using this product. Wash thoroughly after handling.
Destroy contaminated shoes in proper manner. Keep away from
heat/sparks/open flames/hot surfaces.-No smoking. Keep container
tightly closed. Use explosion-proof electrical/ ventilating/ lighting/
equipment. To reduce potential for static discharge, bond and ground
containers and equipment when transferring material. Use

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spark-proof tools and explosion-proof equipment. Use only outdoors or in a well-ventilated area.

Storage : No fire. Keep from sunlight. Shut tight the container to avoid exposing to the air. Keep from open fire or heat source. Do not store with the oxidizer. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Materials to Avoid : See section 10.

8. Exposure Controls / Personal Protection

Exposure Limit Values

No	Chemical Name	OSHA PEL	ACGIH TLV	NIOSH Pocket Guide	California OELs
1	Xylenes	N.E.	TWA :100ppm STEL :150ppm	TWA :100ppm STEL: 150ppm	N.E.
2	Ethylbenzene	TWA :100ppm STEL :125ppm	TWA:20ppm	TWA :100ppm STEL: 125ppm	PEL:5ppm STEL:30ppm
3	Cyclohexane	TWA :300ppm	TWA :100ppm	TWA :300ppm	PEL: 300ppm

California OELs : California-Occupational Exposure Limits

Exposure Controls

Occupational Exposure Controls

Engineering Controls : Use exhaust ventilation to keep airborne concentration below exposure limits.
Use explosion-proof handling equipment.
Prepare safety shower, lavatory, and washing stand for workers, and display the location visibly.

Personal Protection

Respiratory Protection : An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where air-borne concentrations are expected to exceed exposure limits.



Protection provided by air purifying respirators is limited.
Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not

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provide adequate protection.

Hand Protection

: Wear gloves resistant to organic solvents and chemicals.



Gloves

Eye Protection

: Wear coverall, chemical goggles and face shield when handling.



Safety Glasses

Skin Protection

: To prevent any contact, wear impervious clothing such as gloves, apron, boots, or whole body suits made from neoprene, as appropriate.



Protective Apron

Environmental Exposure Controls

: Not Available

9. Physical and Chemical Properties

Appearance	- Physical State	: Viscous liquid
	- Color	: Clear light yellow
Odor		: Specific odor
Boiling Point / Boiling Range		: 72°C
Melting Point / Melting Range		: Not Available
Flash Point		: $\leq -20^{\circ}\text{C}$
Ignition point		: Not Available
Upper / Lower Flammability or Explosive Limits		: Not Available
Specific Gravity		: $0.85 \pm 0.05(20^{\circ}\text{C})$
Water Solubility		: Insoluble

10. Stability and Reactivity

Conditions to Avoid	: Heating, high temperature
Stability	: Stable under normal temperature and pressure. No self-reactive.
Materials to Avoid	: Strong oxidizing agents, strong acids, and strong alkali
Hazardous Reactions /	: Carbon monoxide, carbon dioxide, silicon dioxide produced by

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Decomposition Products combustion.

11. Toxicological Information

Acute Toxicity : Category 4 (Inhalation) as a product.

Chemical Name	Oral (rat)	Dermal (rat or rabbit)	Inhalation (rat)
Cyclohexane	LD50 12705mg/kg	LD50 >2000mg/kg(rat)	LD50(4h) >13.9mg/L
Xylenes	LD50 >3500mg/kg	LD50 1700mg/kg (rabbit)	LD50(4h) 6350ppm
Ethyl benzene	LD50 3500mg/kg	LD50 15400mg/kg (rabbit)	LD50(4h) 4000ppm

Eye Irritation : Category 2 as a product.

Chemical Name	GHS Classification
Cyclohexane	Category 2A-2B
Xylenes	Category 2A-2B
Ethyl benzene	Category 2B

Skin Irritation : Category 2 as a product.

Chemical Name	GHS Classification
Cyclohexane	Category 2
Xylenes	Category 2

Sensitization : Not Available

Mutagenicity : Not Available

Carcinogenicity : Category 2 as a product. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethyl benzene	A3	Group 2B	-	Present
Xylenes	A4	-	-	-

Reproductive and Developmental Toxicity

: Category 1 as a product.

Chemical Name	GHS Classification
Xylenes	Category 2
Ethyl benzene	Category 1B

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Specific Target : Category 1 ((respirator, liver, kidneys, central nerve system), Category 2
 Organ Toxicity (Single Exposure) (blood vascular system), Category 3 (Narcotic effects) as a product.

Chemical Name	GHS Classification
Cyclohexane	Category 2 (Blood vascular system) Category 3 (Respiratory tract irritation, Narcotic effects)
Xylenes	Category 1 (respirator, liver, central nerve system, kidney) Category 3 (Narcotic effects)
Ethyl benzene	Category 2 (Central nerve system) Category3 (Respiratory tract irritation)

Specific Target : Category 1 (respirator, nerve system), Category 2 (hearing organ) as a
 Organ Toxicity (Repeated Exposure) product.

Chemical Name	GHS Classification
Xylenes	Category 1 (respirator, nerve system)

Aspiration Hazard : Category 1 as a product.

Chemical Name	GHS Classification
Cyclohexane	Category 2
Xylenes	Category 1
Ethyl benzene	Category 1

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
 Hazardous to the : Category 1 as a product.
 Aquatic Environment -
 Acute Hazard

Chemical Name	GHS Classification
Cyclohexane	Category 1 Daphnia magna EC50(48h): 0.9mg/L
Xylenes	Category2 Rainbow trout LC50(96h): 3.3mg/L Daphnia magna EC50(48h): 2-12mg/L

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	Selenastrum EC50(72h): 3.2mg/L
Ethyl benzene	Category 1
	Rainbow trout LC50(96h): 4.2mg/L
	Daphnia magna EC50(48h): 1.8-2.9mg/L
	Green algae EC50(72h): 3.6-7.7mg/L

Hazardous to the : Category 3 as a product.

Aquatic

Environment - Long

Term Hazard

Persistence and : Not Available

Degradability

Bioaccumulative : Not Available

Potential

Chemical Name	GHS Classification
Xylene	Category 2

13. Disposal Considerations

: Comply with all USA, national and local regulations.

This product contains substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Cyclohexane	Toxic; Ignitable
Ethyl benzene	Toxic; Ignitable

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

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

IATA Information

UN Number : UN1866

Proper Shipping Name : RESIN SOLUTION flammable

Packing Group : II

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ICAO Information

UN Number : UN1866
 Proper Shipping Name : RESIN SOLUTION flammable
 Packing Group : II

IMDG Information

UN Number : UN1866
 Proper Shipping Name : RESIN SOLUTION flammable
 Packing Group : II

Marine Pollutant :

Chemical Name	IBC Code
Cyclohexane	Category Y
Xylenes	Category Y
Ethyl benzene	Category Y

15. Regulatory Information

OSHA Status : Following substances are hazardous under 29 CFR 1910. 1200.

Chemical Name	Hazardous Chemicals	Carcinogen
Cyclohexane	X	-
Xylenes	X	-
Ethyl benzene	X	X

TSCA Status

Clean Air Act Section 112, Hazardous Air Pollutants : Xylenes (CAS No. 1330-20-7)
 Ethylbenzene (CAS No.100-41-4)

CERCLA : This product contains the following CERCLA Hazardous Substances.

Reportable Quantity (40 CFR 302)

Chemical Name	Hazardous Substances	RQ
Cyclohexane	X	454kg
Xylenes	X	454kg
Ethyl benzene	X	454kg

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SARA Title III

Section 313
(40 CFR 372)

: This product contains the following SARA Title III Section 313 chemicals.

Chemical Name	Emission Reporting
Cyclohexane	1.0%
Xylenes	1.0%
Ethyl benzene	0.1%

California Proposition
65
Others

: This product contains the following Proposition 65 chemicals.

Chemical Name	Hazardous Chemicals	Carcinogen
Cyclohexane	X	-
Xylenes	X	-
Ethyl benzene	X	X

Others

Please refer to any other federal, state and local regulations.

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.

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