

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Version
1.0

Revision Date: -

Date of last issue: -

Date of first issue: 21/11/2025

Signal Word	:	Danger
Hazard Statements	:	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H373 May cause damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Precautionary Statements	:	Prevention: P260 Do not breathe dust/fume/gas/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. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. Response: P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 IF INHALED: Remove person to fresh air and keep 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. P310 Immediately call a POISON CENTER or doctor. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P314 Get medical advice/attention if you feel unwell. P330 Rinse mouth. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P391 Collect spillage. 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 applicable regulations.

Additional Labeling

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 4 %

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard

Version 1.0 Revision Date: -

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Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Inkjet inks (UV-curable type)

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
2-Propenoic acid, phenylmethyl ester	2495-35-4	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1B (H317) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	>= 30 - < 50
Morpholine, 4-(1-oxo-2-propenyl)-	5117-12-4	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT RE 2 (H373)	>= 30 - < 50
2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-	5888-33-5	Skin Sens. 1A (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	>= 10 - < 20
2-Propenoic acid, 2-(2-ethoxyethoxy)ethyl ester	7328-17-8	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1A (H317) Aquatic Chronic 2 (H411)	>= 2.5 - < 10
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)-	162881-26-7	Skin Sens. 1A (H317) Aquatic Chronic 4 (H413)	>= 2.5 - < 10
Trimethylolpropane polyoxyethylene triacrylate	28961-43-5	Eye Irrit. 2 (H319) Skin Sens. 1B (H317) Aquatic Chronic 3 (H412)	>= 2.5 - < 10
Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate	84434-11-7	Skin Sens. 1B (H317) Aquatic Chronic 2 (H411)	>= 2.5 - < 10
1,6-Hexanediol diacrylate	13048-33-4	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	>= 0.1 - < 1
Copolymer solution containing pigment affinity group	Not Assigned	Aquatic Acute 1 (H400)	>= 0.25 - < 1

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard

Version 1.0 Revision Date: -

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Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propenyl)oxy]-	52408-84-1	Eye Irrit. 2A (H319) Skin Sens. 1 (H317)	>= 0.1 - < 1
N,N-dimethylacrylamide	2680-03-7	Flam. Liq. 4 (H227) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Eye Dam. 1 (H318) Skin Sens. 1B (H317) STOT RE 2 (H373)	>= 0 - < 10

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Version Revision Date: -
1.0

Date of last issue: -
Date of first issue: 21/11/2025

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- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard

Version 1.0 Revision Date: -

Date of last issue: -
Date of first issue: 21/11/2025

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1,6-Hexanediol diacrylate	13048-33-4	TWA	1 mg/m3	US WEEL

Personal protective equipment

- Respiratory protection : Wear suitable protective equipment.
Hand protection
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : colored
- Odor : characteristic
- pH : Not applicable
- Melting point/freezing point : No data available
- Boiling point, initial boiling point and boiling range : No data available
- Flash point : ≥ 201 °F / ≥ 94 °C
Method: Seta closed cup
- Flammability (liquids) : Sustains combustion
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Vapor pressure : No data available

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard

EPSON

Version 1.0 Revision Date: -

Date of last issue: -
Date of first issue: 21/11/2025

Relative vapor density	:	No data available
Density	:	1.00 - 1.10 g/cm ³
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	Solvent: Solubility: Organic solvent
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	<= 14 mm ² /s (104 °F / 40 °C)
Particle characteristics		
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available
Incompatible materials	:	Not applicable
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,421 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks	:	May cause skin irritation and/or dermatitis.
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Serious eye damage/eye irritation

Causes serious eye damage.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Version 1.0 Revision Date: -

Date of last issue: -
Date of first issue: 21/11/2025

Product:

Remarks : May cause irreversible eye damage.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

Remarks : Causes sensitization.

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified due to lack of data.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Version 1.0 Revision Date: -

Date of last issue: -
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Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(,)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(,)
Class : 9
Packing group : III
Labels : Miscellaneous Dangerous Goods

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Version Revision Date: -
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Date of first issue: 21/11/2025

Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(,)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(,)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes(,)
Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks : 49CFR: no dangerous good in non-bulk packaging

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

2-Propenoic acid, 7328-17-8 >= 5 - < 10 %
2-(2-ethoxyethoxy)ethyl ester

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

2-Propenoic acid, 2-(2-ethoxyethoxy)ethyl ester 7328-17-8 >= 5 - < 10 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Phenol 108-95-2 >= 0 - < 0.1 %
Cyclohexane 110-82-7 >= 0 - < 0.1 %
Toluene 108-88-3 >= 0 - < 0.1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Phenol 108-95-2 >= 0 - < 0.1 %
Cyclohexane 110-82-7 >= 0 - < 0.1 %
Toluene 108-88-3 >= 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

Phenol 108-95-2

Pennsylvania Right To Know

2-Propenoic acid, 2-(2-ethoxyethoxy)ethyl ester 7328-17-8
Phthalocyanine blue 147-14-8
Phenol 108-95-2

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Version 1.0 Revision Date: -

Date of last issue: -
Date of first issue: 21/11/2025

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including Toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:

Morpholine, 4-(1-oxo-2-propenyl)-	5117-12-4	See 40 CFR § 721.5185; Final Rule
2,4-Diethyl-9H-thioxanthen-9-one	82799-44-8	See 40 CFR § 721.9664; Final Rule

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

Morpholine, 4-(1-oxo-2-propenyl)-	5117-12-4
2,4-Diethyl-9H-thioxanthen-9-one	82799-44-8

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA	:	8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS -

