

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : EPO-TEK® MED-HYB-353ND PMF SYRINGE

1.2. Recommended use and restrictions on use

Recommended use : Adhesives
Restrictions on use : Not to be used for any purpose other than the one the product was designed for

1.3. Supplier

Epoxy Technology, Inc.
14 Fortune Drive
Billerica, MA 01821
USA
T 978-667-3805 - F 978-663-9782
www.epotek.com

1.4. Emergency telephone number

Emergency number : VelocityEHS: +1 (800) 255-3924, +1 (813) 248-0585

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer (Inhalation)
Reproductive toxicity Category 1B	H360	May damage fertility or the unborn child
Hazardous to the aquatic environment – Acute Hazard Category 3	H402	Harmful to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H351 - Suspected of causing cancer (Inhalation)
H402 - Harmful to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust.

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P264 - Wash hands thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective gloves.
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+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a doctor.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Harmful dust may be released during cutting, milling or grinding process.

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Epoxy phenol novolac resin	CAS-No.: 9003-36-5	≥ 60	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Epoxy acrylate	CAS-No.: 55818-57-0	≥ 10	Skin Sens. 1, H317
2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester	CAS-No.: 87320-05-6	5 – 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Substituted imidazole	CAS-No.: 931-36-2	1 – 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317
Imidazole	CAS-No.: 288-32-4	≥ 1	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360
Epoxy acrylate	CAS-No.: 42978-66-5	≥ 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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Name	Product identifier	%	GHS US classification
Substituted imidazole	CAS-No.: 822-36-6	< 1	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Carc. 2, H351
Photoinitiator	CAS-No.: 75980-60-8	< 1	Repr. 2, H361 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Comments : Components not listed are either non-hazardous or are below reportable limits.
*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret
Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Substituted imidazole (822-36-6)

No additional information available

Substituted imidazole (931-36-2)

No additional information available

Imidazole (288-32-4)

No additional information available

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Epoxy phenol novolac resin (9003-36-5)

No additional information available

2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester (87320-05-6)

No additional information available

Epoxy acrylate (55818-57-0)

No additional information available

Epoxy acrylate (42978-66-5)

No additional information available

Photoinitiator (75980-60-8)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's information. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : colorless to pale yellow
Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour:
Ammonia odour Amine-like odour Mild odour Characteristic odour Stuffy odour Aromatic odour
Odor threshold : No data available
pH : No data available

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Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Substituted imidazole (822-36-6)

LD50 oral rat	350 mg/kg Source: IUCLID
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Substituted imidazole (822-36-6)	
LD50 oral	173 mg/kg
LD50 dermal rabbit	440 mg/kg Source: IUCLID
ATE US (oral)	173 mg/kg body weight
ATE US (dermal)	440 mg/kg body weight
Substituted imidazole (931-36-2)	
LD50 oral rat	731 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 400 mg/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 0.03 mg/l (Equivalent or similar to OECD 403, 8 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (vapours))
ATE US (oral)	731 mg/kg body weight
Imidazole (288-32-4)	
LD50 oral rat	970 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 7 day(s))
LD50 oral	960 mg/kg
ATE US (oral)	960 mg/kg body weight
Epoxy acrylate (55818-57-0)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 4.9 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
Epoxy acrylate (42978-66-5)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, 14 day(s), Rat, Female, Experimental value, Oral, 14 day(s))
LD50 oral	6800 mg/kg
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal	2500 mg/kg
ATE US (oral)	6800 mg/kg body weight
ATE US (dermal)	2500 mg/kg body weight
Photoinitiator (75980-60-8)	
LD50 oral rat	> 5000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
Skin corrosion/irritation	: Causes skin irritation.
Substituted imidazole (822-36-6)	
pH	10.6 (10 %)

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Substituted imidazole (931-36-2)	
pH	10.9 (21 %)
Imidazole (288-32-4)	
pH	10.5 (7 %)
Epoxy phenol novolac resin (9003-36-5)	
pH	No data available in the literature
Serious eye damage/irritation	: Causes serious eye damage.
Substituted imidazole (822-36-6)	
pH	10.6 (10 %)
Substituted imidazole (931-36-2)	
pH	10.9 (21 %)
Imidazole (288-32-4)	
pH	10.5 (7 %)
Epoxy phenol novolac resin (9003-36-5)	
pH	No data available in the literature
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer (Inhalation).
Substituted imidazole (822-36-6)	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	: May damage fertility or the unborn child.
STOT-single exposure	: Not classified
2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester (87320-05-6)	
STOT-single exposure	May cause respiratory irritation.
Epoxy acrylate (42978-66-5)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Substituted imidazole (931-36-2)	
NOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:EPA OPPTS 870.3650 (Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test)
Imidazole (288-32-4)	
NOAEL (oral,rat,90 days)	60 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Epoxy phenol novolac resin (9003-36-5)	
NOAEL (oral,rat,90 days)	≈ 250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Epoxy acrylate (55818-57-0)	
NOAEL (oral,rat,90 days)	> 900 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

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Epoxy acrylate (42978-66-5)	
NOAEL (oral,rat,90 days)	250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Substituted imidazole (931-36-2)	
Viscosity, kinematic	1435.897 mm ² /s
Imidazole (288-32-4)	
Viscosity, kinematic	No data available in the literature
Epoxy phenol novolac resin (9003-36-5)	
Viscosity, kinematic	No data available in the literature
Epoxy acrylate (42978-66-5)	
Viscosity, kinematic	14.5 mm ² /s (20 °C, OECD 114: Viscosity of Liquids)
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

Substituted imidazole (822-36-6)	
LC50 - Fish [1]	0.34 mg/l Source: IUCLID
EC50 - Crustacea [1]	180 mg/l Source: IUCLID
EC50 72h - Algae [1]	2 mg/l Source: IUCLID
Substituted imidazole (931-36-2)	
LC50 - Fish [1]	68.1 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	297.3 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 72h - Algae [1]	124.8 mg/l (DIN 38412-9, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)
EC50 72h - Algae [2]	72 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	6.057 mg/l Source: Ecological Structure Activity Relationships
Imidazole (288-32-4)	
LC50 - Fish [1]	283.6 mg/l (48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	341.5 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	133 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

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Imidazole (288-32-4)	
ErC50 algae	133 mg/l (DIN 38412: German standard methods for the examination of water, waste water and sludge, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC chronic algae	25 mg/l
Epoxy phenol novolac resin (9003-36-5)	
LC50 - Fish [1]	1.9 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Semi-static system, Fresh water, Weight of evidence)
EC50 - Crustacea [1]	3.5 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence, GLP)
LC50 - Fish [2]	1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 72h - Algae [1]	1.8 mg/l (Equivalent or similar to OECD 201, Selenastrum capricornutum, Static system, Fresh water, Experimental value)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Epoxy acrylate (55818-57-0)	
LC50 - Fish [1]	> 0.082 mg/l Test organisms (species): Cyprinus carpio
EC50 - Crustacea [1]	> 16 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	17 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	4.9 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
Epoxy acrylate (42978-66-5)	
LC50 - Fish [1]	4.5 – 10 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	89 mg/l (EU Method C.1, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	65.9 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	65.9 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
Photoinitiator (75980-60-8)	
LC50 - Fish [1]	1 – 10 mg/l (OECD 203: Fish, Acute Toxicity Test, 48 h, Oryzias latipes, Experimental value)
EC50 - Crustacea [1]	10 – 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Experimental value)
EC50 72h - Algae [1]	10 – 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Algae, Experimental value)
12.2. Persistence and degradability	
Substituted imidazole (822-36-6)	
Not rapidly degradable	
Persistence and degradability	Inherently biodegradable.
Biochemical oxygen demand (BOD)	0.000002 g O ₂ /g substance

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Substituted imidazole (822-36-6)	
Chemical oxygen demand (COD)	0.0015 g O ₂ /g substance
Substituted imidazole (931-36-2)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.
Imidazole (288-32-4)	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Epoxy phenol novolac resin (9003-36-5)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester (87320-05-6)	
Not rapidly degradable	
Persistence and degradability	Biodegradability in water: no data available.
Epoxy acrylate (42978-66-5)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
Photoinitiator (75980-60-8)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
12.3. Bioaccumulative potential	
Substituted imidazole (822-36-6)	
Partition coefficient n-octanol/water (Log Pow)	0.35 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Substituted imidazole (931-36-2)	
Partition coefficient n-octanol/water (Log Pow)	1.13 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Imidazole (288-32-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.02 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Not bioaccumulative.
Epoxy phenol novolac resin (9003-36-5)	
Partition coefficient n-octanol/water (Log Pow)	2.7 – 3.6 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester (87320-05-6)	
Bioaccumulative potential	No bioaccumulation data available.

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Epoxy acrylate (42978-66-5)	
Partition coefficient n-octanol/water (Log Pow)	2 (Experimental value, EU Method A.8: Partition Coefficient, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Photoinitiator (75980-60-8)	
BCF - Fish [1]	< 40 (OECD 305: Bioconcentration: Flow-Through Fish Test, Cyprinidae sp., Experimental value, Chronic)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Substituted imidazole (822-36-6)	
Mobility in soil	28.23 Source: EPI SUITE
Ecology - soil	No (test)data on mobility of the substance available.

Substituted imidazole (931-36-2)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, Calculated value, pH = 7)
Ecology - soil	Low potential for mobility in soil.

Imidazole (288-32-4)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.36 – 2.32 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

Epoxy phenol novolac resin (9003-36-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.65 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for mobility in soil.

Epoxy acrylate (42978-66-5)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil.

Photoinitiator (75980-60-8)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN3082
UN-No. (TDG) : UN3082
UN-No. (IMDG) : 3082
UN-No. (IATA) : 3082

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s. (Epoxy Phenol Novolac)
Proper Shipping Name (TDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Phenol Novolac)
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Phenol Novolac)
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s. (Epoxy Phenol Novolac)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 9
Hazard labels (DOT) : 9



TDG

Transport hazard class(es) (TDG) : 9
Hazard labels (TDG) : 9



IMDG

Transport hazard class(es) (IMDG) : 9
Hazard labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9
Hazard labels (IATA) : 9



14.4. Packing group

Packing group (DOT) : III
Packing group (TDG) : III
Packing group (IMDG) : III

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Packing group (IATA) : III

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN3082

DOT Special Provisions (49 CFR 172.102) : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.
146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.
173 - An appropriate generic entry may be used for this material.
335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 155

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG) : UN3082

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TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	: 5 L
Excepted quantities (TDG)	: E1
Emergency Response Guide (ERG) Number	: 171
IMDG	
Special provision (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
Packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A
IATA	
PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L

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Special provision (IATA) : A97, A158, A197, A215

ERG code (IATA) : 9L

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

Substituted imidazole (822-36-6)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Substituted imidazole (931-36-2)

Listed on the Canadian DSL (Domestic Substances List)

Imidazole (288-32-4)

Listed on the Canadian DSL (Domestic Substances List)

Epoxy phenol novolac resin (9003-36-5)

Listed on the Canadian DSL (Domestic Substances List)

2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester (87320-05-6)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Epoxy acrylate (55818-57-0)

Listed on the Canadian DSL (Domestic Substances List)

Epoxy acrylate (42978-66-5)

Listed on the Canadian DSL (Domestic Substances List)

Photoinitiator (75980-60-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Substituted imidazole (822-36-6)

Listed on IARC (International Agency for Research on Cancer)

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Imidazole (288-32-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Epoxy phenol novolac resin (9003-36-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Epoxy acrylate (55818-57-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Epoxy acrylate (42978-66-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Photoinitiator (75980-60-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations



WARNING:

This product can expose you to 4-Methylimidazole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

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Full text of H-phrases

H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H361	Suspected of damaging fertility or the unborn child
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.