

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : 60-7114RTR

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

Epoxies, Etc.
21 Starline Way
Cranston, RI 02921
USA
T 401-946-5564
www.epoxies.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 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure
Hazardous to the aquatic environment – Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 1	H410	Very 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) : Warning
Hazard statements (GHS US) : H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
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

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Precautionary statements (GHS US) : P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of 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.
P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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
Specialty resin*	CAS-No.: Trade Secret	< 60	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 STOT SE 3, H335 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Urethane acrylate oligomer	-	30 – 60	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Acrylic ester	-	1 – 5	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	GHS US classification
Cyclic Trimethylolpropane formal acrylate	CAS-No.: 66492-51-1	< 5	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411
2-Propenoic acid, dodecyl ester	CAS-No.: 2156-97-0	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Photoinitiator	CAS-No.: 7473-98-5	< 5	Acute Tox. 4 (Oral), H302 Aquatic Chronic 3, H412
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	CAS-No.: 162881-26-7	< 1	Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 4, H413
Epoxy acrylate	CAS-No.: 15625-89-5	< 1	Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp	CAS-No.: 84434-11-7	< 1	Skin Sens. 1, H317 Aquatic Chronic 2, H411

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

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	: Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
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. If eye irritation persists: Get medical advice/attention.
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 inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

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".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up : Take up liquid spill into absorbent material.
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

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.

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Hygiene measures : 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

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

Personal protective equipment:

Wear recommended 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 insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : According to product specification
Odor : Mild odour
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available

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Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
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

Specialty resin	
LD50 oral rat	4350 mg/kg body weight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 5000 mg/kg Source: Corporate Solution From Thomson Micromedex
LD50 dermal rabbit	> 3000 mg/kg body weight (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))

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Specialty resin	
ATE US (oral)	4350 mg/kg body weight
2-Propenoic acid, dodecyl ester (2156-97-0)	
LD50 oral rat	> 5570 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 5000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 16000 mg/kg Source: Swedish Chemical Agency
Epoxy acrylate (15625-89-5)	
LD50 oral rat	> 5000 mg/kg body weight Animal: rat
LD50 oral	5000 mg/kg
LD50 dermal rabbit	5170 mg/kg Source: RTECS
LD50 dermal	5170 mg/kg
LC50 Inhalation - Rat	> 0.55 mg/l (6 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (vapours), 14 day(s))
ATE US (oral)	5000 mg/kg body weight
ATE US (dermal)	5170 mg/kg body weight
ATE US (dust, mist)	0.5 mg/l/4h
Photoinitiator (7473-98-5)	
LD50 oral rat	1694 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1583 - 1811
LD50 dermal rat	6929 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 6028 - 7964
ATE US (oral)	1694 mg/kg body weight
ATE US (dermal)	6929 mg/kg body weight
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
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, 14 day(s))
LC50 Inhalation - Rat	≥ 0 mg/l air (IRT (inhalation risk test), 7 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
LD50 oral rat	> 2000 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
Skin corrosion/irritation	: Causes skin irritation.
Specialty resin	
pH	No data available in the literature

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Epoxy acrylate (15625-89-5)	
pH	No data available in the literature
Photoinitiator (7473-98-5)	
pH	No data available in the literature
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
pH	3.2 – 4.3 (35 mg/l, 20 °C, EU Method A.6: Water solubility)
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
pH	No data available in the literature
Serious eye damage/irritation	: Causes serious eye irritation.
Specialty resin	
pH	No data available in the literature
Epoxy acrylate (15625-89-5)	
pH	No data available in the literature
Photoinitiator (7473-98-5)	
pH	No data available in the literature
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
pH	3.2 – 4.3 (35 mg/l, 20 °C, EU Method A.6: Water solubility)
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
pH	No data available in the literature
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Epoxy acrylate (15625-89-5)	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
Specialty resin	
STOT-single exposure	May cause respiratory irritation.
2-Propenoic acid, dodecyl ester (2156-97-0)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Specialty resin	
NOAEL (oral, rat, 90 days)	100 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
2-Propenoic acid, dodecyl ester (2156-97-0)	
NOAEL (oral, rat, 90 days)	1000 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 (15625-89-5)	
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)
Photoinitiator (7473-98-5)	
NOAEL (oral,rat,90 days)	50 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
NOAEL (oral,rat,90 days)	≥ 500 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents), Guideline: EU Method B.7 (Repeated Dose (28 Days) Toxicity (Oral))
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
NOAEL (oral,rat,90 days)	> 1000 mg/kg body weight Animal: rat, Guideline: other:92/69/eec

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Specialty resin	
Viscosity, kinematic	No data available in the literature

Epoxy acrylate (15625-89-5)	
Viscosity, kinematic	110 mm ² /s (20 °C, Calculated)

Photoinitiator (7473-98-5)	
Viscosity, kinematic	23 mm ² /s (20 °C, OECD 114: Viscosity of Liquids)

Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
Viscosity, kinematic	1312.389 mm ² /s

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
Viscosity, kinematic	Not applicable (solid)

Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Specialty resin	
LC50 - Fish [1]	0.704 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	1.98 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.596 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	0.172 mg/l Source: Ecological Structure Activity Relationships
ErC50 algae	1.98 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

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Specialty resin	
LOEC (chronic)	0.277 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.092 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
2-Propenoic acid, dodecyl ester (2156-97-0)	
LC50 - Fish [1]	≈ 460 mg/l Test organisms (species): Leuciscus idus
EC50 72h - Algae [1]	51.6 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	0.132 mg/l Source: Ecological Structure Activity Relationships
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Epoxy acrylate (15625-89-5)	
LC50 - Fish [1]	1.47 mg/l Test organisms (species): Leuciscus idus
EC50 96h - Algae [1]	4.86 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	4.86 mg/l (EU Method C.3, 96 h, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
Photoinitiator (7473-98-5)	
LC50 - Fish [1]	160 mg/l (DIN 38412-15, 48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 119 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	1.95 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	1.02 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	1.95 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
LC50 - Fish [1]	1.89 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	2.26 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	1.01 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	0.239 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	1.01 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
LC50 - Fish [1]	> 0.09 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 1.17 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)

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phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
EC50 72h - Algae [1]	> 0.26 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 0.26 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)

12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
Specialty resin	
Persistence and degradability	Not readily biodegradable in water.
2-Propenoic acid, dodecyl ester (2156-97-0)	
Persistence and degradability	Not rapidly degradable
Cyclic Trimethylolpropane formal acrylate (66492-51-1)	
Persistence and degradability	Not rapidly degradable
Epoxy acrylate (15625-89-5)	
Persistence and degradability	Readily biodegradable in water.
ThOD	1.835 g O ₂ /g substance
Urethane acrylate oligomer	
Persistence and degradability	Not rapidly degradable
Acrylic ester	
Persistence and degradability	Not rapidly degradable
Photoinitiator (7473-98-5)	
Persistence and degradability	Readily biodegradable in water.
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
Persistence and degradability	Not readily biodegradable in water.
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

Specialty resin	
BCF - Fish [1]	37 (OECD 305: Bioconcentration: Flow-Through Fish Test, 56 h, Danio rerio, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	4.52 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2-Propenoic acid, dodecyl ester (2156-97-0)	
Partition coefficient n-octanol/water (Log Pow)	6.13 Source: Quantitative Structure Activity Relation
Bioaccumulative potential	No bioaccumulation data available.

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Epoxy acrylate (15625-89-5)	
BCF - Fish [1]	344 l/kg (BCFBFAF v3.01, Pisces, QSAR, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	2.86 Source: QSAR
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Photoinitiator (7473-98-5)	
Partition coefficient n-octanol/water (Log Pow)	1.62 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
Partition coefficient n-octanol/water (Log Pow)	2.91 (Experimental value, EU Method A.8: Partition Coefficient, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
BCF - Fish [1]	< 5 (Equivalent or similar to OECD 305, 4 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	5.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
12.4. Mobility in soil	
Specialty resin	
Surface tension	69.6 mN/m (20 °C, OECD 115: Surface Tension of Aqueous Solutions)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Low potential for mobility in soil.
2-Propenoic acid, dodecyl ester (2156-97-0)	
Mobility in soil	17790 Source: EPI Suite
Epoxy acrylate (15625-89-5)	
Surface tension	51 mN/m (20 °C, 90 %, OECD 115: Surface Tension of Aqueous Solutions)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.2 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Low potential for adsorption in soil.
Photoinitiator (7473-98-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.028 – 1.307 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.37 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)

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Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)	
Ecology - soil	Low potential for mobility in soil.
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)	
Surface tension	70.7 – 71.4 mN/m (20 °C, 0.1 g/l, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.85 (log Koc, Equivalent or similar to OECD 121, Experimental value, GLP)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

No additional information available



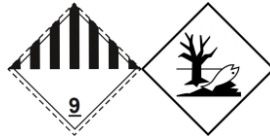
SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Seawage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated	UN3082	3082	3082
14.2. Proper Shipping Name			
Not regulated	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Specialty resin)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Specialty resin)	Environmentally hazardous substance, liquid, n.o.s. (Specialty resin)
14.3. Transport hazard class(es)			
Not regulated	9	9	9
			
14.4. Packing group			
Not regulated	III	III	III
14.5. Environmental hazards			
Not regulated	Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available			

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14.6. Special precautions for user

DOT

Not regulated

TDG

UN-No. (TDG)

: UN3082

TDG Special Provisions

: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers 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). 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).

(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 offered for transport, handled or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means of containment and during transport.

(2) These Regulations, except for Parts 1 and 2, do not apply to the offering for transport, handling or transport 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 release of the dangerous goods that could endanger public safety.

Explosive Limit and Limited Quantity Index

: 5 L

Excepted quantities (TDG)

: E1

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

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PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
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, except for:

Ethylphenyl(2,4,6-trimethylbenzoyl)phosp	CAS-No. 84434-11-7	< 1%
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15.2. International regulations

CANADA

Specialty resin

Listed on the Canadian DSL (Domestic Substances List)

2-Propenoic acid, dodecyl ester (2156-97-0)

Listed on the Canadian DSL (Domestic Substances List)

Cyclic Trimethylolpropane formal acrylate (66492-51-1)

Listed on the Canadian DSL (Domestic Substances List)

Epoxy acrylate (15625-89-5)

Listed on the Canadian DSL (Domestic Substances List)

Urethane acrylate oligomer

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Acrylic ester

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Photoinitiator (7473-98-5)

Listed on the Canadian DSL (Domestic Substances List)

Ethylphenyl(2,4,6-trimethylbenzoyl)phosp (84434-11-7)

Listed on the Canadian DSL (Domestic Substances List)

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phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Epoxy acrylate (15625-89-5)

Listed on IARC (International Agency for Research on Cancer)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Urethane acrylate oligomer

Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Acrylic ester

Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Photoinitiator (7473-98-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Urethane acrylate oligomer()	U.S. - Pennsylvania - RTK (Right to Know) List
Acrylic ester()	U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of hazard classes and H-statements

H227	Combustible liquid
H302	Harmful if swallowed
H315	Causes skin irritation

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Full text of hazard classes and H-statements	
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
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
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

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.