Manufacturer:
Covestro

Product Name:
Covestro DeSolite® DF-0009 Single Coat Optical Fiber Coating, UV Cure (1 kg)

Manufacturer Part Number:
COV-DF-0009-1KG

Click here for more details on the Covestro DeSolite® DF-0009 Single Coat Optical Fiber Coating, UV Cure (1 kg)

Safety Data Sheet according to Regulation (EU) No. 1907/2006 as amended

DeSolite DF-0009

Version 14.0 Revision Date 12.12.2023 Print Date 13.12.2023

This document is formatted for A4 paper size

Data is subject to change without notice.

Contact the professionals at Fiber Optic Center for a quote or to get more details.

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DeSolite DF-0009

Version 14.0 Revision Date 12.12.2023 Print Date 13.12.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

DESOLITE DF-0009

Material number: 50025051

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use:
UV-curable coatings, inks and matrix materials.

1.3 Details of the supplier of the safety data sheet

Covestro Deutschland AG
COV Global Product Safety
D-51365 LEVERKUSEN

Tel.: +49 214 6009 8134
e−mail: ProductSafetyEMLA@covestro.com

1.4 Emergency telephone number

+1-703-527-3887 (Chemtrec)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Skin irritation, Category 2 (H315)
Serious eye damage, Category 1 (H318)
Sensitization of the skin, Category 1 (H317)
Reproductive toxicity, Category 1B (H360FD)
Chronically hazardous to the aquatic environment, Category 3 (H412)

2.2 Label elements

Danger

Hazardous components which must be listed on the label
Bisphenol A-epichlorohydrin copolymer acrylate laurate
N,N-dimethylacrylamide
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
3-Trimethoxysilylpropane-1-thiol
2-hydroxyethyl acrylate

Hazard statements:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H360FD May damage fertility. May damage the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:
P201 Obtain special instructions before use.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Supplementary hazardous characteristics and labeling elements:
Restricted to professional users.

2.3 Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 1 %

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Type of product: Mixture

3.2 Mixtures

Hazardous components

Acrylated resin
Concentration [wt.-%]: >= 25 - < 50
Classification (1272/2008/CE): Skin Irrit. 2 H315 Eye Irrit. 2 H319

Bisphenol A-epichlorohydrin copolymer acrylate laurate
Concentration [wt.-%]: >= 25 - < 50
CAS-No.: 68071-07-8
Classification (1272/2008/CE): Skin Sens. 1B H317

Reaction mass of Dodecyl Acrylate and Tridecyl Acrylate
Concentration [wt.-%]: >= 10 - < 20
EC-No.: 911-296-4
Classification (1272/2008/CE): Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335 Aquatic Chronic 2 H411

N,N-dimethylacrylamide
Concentration [wt.-%]: >= 5 - < 10
EC-No.: 220-237-5
Classification (1272/2008/CE): Acute Tox. 3 Oral H301 Acute Tox. 3 Dermal H311 Eye Dam. 1 H318
ATE (oral): 215 mg/kg
ATE (dermal): 541 mg/kg

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Concentration [wt.-%]: < 10
EC-No.: 500-130-2
REACH Registration Number: 01-2119490020-53
CAS-No.: 55818-57-0
Classification (1272/2008/CE): Skin Sens. 1 H317 Aquatic Chronic 2 H411

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Concentration [wt.-%]: < 2.5
Index-No.: 606-041-00-6
EC-No.: 400-600-6
CAS-No.: 71868-10-5
Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Repr. 1B H360FD Aquatic Chronic 2 H411
ATE (oral): 1,984 mg/kg

2,2-dimethoxy-1,2-diphenylethan-1-one
Concentration [wt.-%]: < 2.5

EC-No.: 246-386-6
CAS-No.: 24650-42-8
Classification (1272/2008/CE): Acute Tox. 4 Oral H302 STOT RE 2 H373 Aquatic Chronic 3 H412

3-Trimethoxysilylpropane-1-thiol
Concentration [wt.-%]: < 1
EC-No.: 224-588-5
CAS-No.: 4420-74-0
Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Skin Sens. 1B H317 Aquatic Chronic 2 H411
ATE (oral): 741 mg/kg

2-hydroxyethyl acrylate
Concentration [wt.-%]: < 1
Index-No.: 607-072-00-8
EC-No.: 212-454-9
REACH Registration Number: 01-2119459345-34
CAS-No.: 818-61-1
Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Acute Tox. 3 Dermal H311 Skin Corr. 1B H314 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Acute 1 H400 Aquatic Chronic 3 H412
Specific threshold concentration (GHS):
Skin Sens. 1 H317 >= 0.2 %
M-factor (acute aquat. tox.): 1
ATE (oral): 540 mg/kg
ATE (dermal): 1,000.1 mg/kg

Candidate List of Substances of Very High Concern for Authorisation
This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 59).

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
CAS-No.: 71868-10-5

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Take off all contaminated clothing immediately.

For effective first-aid, special training / education is needed.

If inhaled: Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required. If unconscious, place in recovery position and seek medical advice. Oxygen or artificial respiration if needed. If breathing is irregular or stopped, administer artificial respiration. Keep respiratory tract clear. Consult a physician if necessary.

Inhalation may provoke the following symptoms: respiratory tract irritation coughing

In the case of hazardous fumes, wear self contained breathing apparatus.

In case of skin contact: In case of skin contact wash affected areas thoroughly with soap and plenty of water. Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Thoroughly clean shoes before reuse. Consult a doctor in the event of a skin reaction.

Most important symptoms Skin irritation Redness

In case of eye contact: Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist. Remove contact lenses.

Eye contact may provoke the following symptoms irritant effects eye redness

If swallowed: Do not induce vomiting without medical advice. Rinse mouth. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person.

If victim is conscious: Give small amounts of water to drink.

If symptoms persist, call a physician or Poison Control Centre immediately.

4.2 Most important symptoms and effects, both acute and delayed

Notes to physician: Treat symptomatically.

4.3 Indication of any immediate medical attention and special treatment needed

Therapeutic measures: No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Formation of carbon monoxide, carbon dioxide and other toxic gases in the event of fire or during thermal decomposition. Fire will produce dense black smoke containing hazardous combustion products (see section 10). In case of fire, may produce hazardous decomposition products such as: Acrylate monomers Aldehydes Organic acids

In the event of fire and/or explosion do not breathe fumes. Cool endangered vessels and containers with sprayed water. Heating raises pressure with consequent risk of bursting and explosion.

5.3 Advice for fire-fighters

Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters. Immediately evacuate personnel to safe areas.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Avoid breathing mist or vapours. Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away. In case of insufficient ventilation, wear suitable respiratory equipment.

6.2 Environment related measures

Do not allow to escape into waterways, wastewater or soil. If the product contaminates rivers and lakes or drains inform respective authorities. Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains. Collect spillage. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Dispose of wastes in an approved waste disposal facility. Do not discharge large quantities of concentrated spills or residues into

surface water or sanitary sewer system.

6.4 Reference to other sections

For personal protection see section 8. For further disposal measures see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For personal protection see section 8. Avoid contact with skin, eyes and clothing. Do not breathe mist or vapours. Do not ingest. Ensure adequate ventilation and, if necessary, exhaust ventilation when handling or transferring the product. In case of insufficient ventilation, wear suitable respiratory equipment. The precautions required in the handling of acrylic acid esters must be taken. Do not re-use empty containers.

Smoking, eating and drinking should be prohibited in the application area. Wash skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas.

Persons who suffer from skin complaints or other hypersensitivity reactions of skin should not work with the product.

The personal protective measures described in section 8 must be observed. Avoid contact with skin and eyes absolutely.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work and use skin-protecting ointment. Keep working clothes separately. Change contaminated or soaked clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Keep container dry and tightly closed in a cool and well ventilated place. Store in original container. Protect against heat and direct sunlight. Store locked up. When not in use, keep containers tightly closed. Keep in properly labelled containers. Use appropriate container to avoid environmental contamination. Polymerisation is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers. Inhibitor only effective in the presence of oxygen.

Recommended storage temperature: 15 - 30 °C

7.3 Specific end use(s)

UV-curable coatings, inks and matrix materials.

SECTION 8: Exposure controls/personal protection

UK Workplace Exposure Limits (WEL), per EH40 document (Health & Safety Executive). If no UK value exists, EU exposure limits given where available.

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL)

2-hydroxyethyl acrylate

Value type	Route of exposure	Health Effects	Value	Remarks
Workers	Inhalation	Long-term local effects	2.4 mg/m3	

Predicted No Effect Concentration (PNEC)

2-hydroxyethyl acrylate

Compartment	Value	Remarks
Fresh water	0.0096 mg/l	
Fresh water sediment	0.0355 mg/kg	
Marine water	0.00096 mg/l	
Marine sediment	0.00355 mg/kg	
Sewage treatment plant	10 mg/l	
Soil	0.00147 mg/kg	
Intermittent use/release	0.0361 mg/l	

8.2 Exposure controls

Appropriate engineering controls
If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Respiratory protection
Respiratory protection required in insufficiently ventilated working areas and during spraying. Respirator with a gas filter

Hand protection
Protective gloves complying with EN 374.
Nitrile rubber: thickness >=0,12mm; Break through time: < 60 min
Contaminated and/or damaged gloves must be changed. Avoid natural rubber gloves. Do not wear PVC gloves, as PVC absorbs acrylates.

Eye protection
Safety glasses with side-shields
Equipment should conform to EN 166

Skin and body protection
Use protective clothing (chemically resistant). Protective suit
Equipment should conform to EN 1149

Further protective measures
Wash face, hands and any exposed skin thoroughly after handling. Use appropriate degowning techniques to remove potentially contaminated clothing. Take off contaminated clothing and wash it before reuse. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid at 20 °C at 1,013 hPa
Colour:	colourless to yellowish
Odour:	characteristic
Odour Threshold:	not established
pH:	not established
Melting point/freezing point:	not established
Boiling point/boiling range:	not established
Flash point:	> 100 °C, closed cup
Evaporation rate:	not established
Flammability (solid, gas):	not applicable
Burning number:	not applicable
Upper/lower flammability or explosive limits:	not established
Vapour pressure:	not established

Relative vapour density:	not established
Density:	1.12 g/cm³ at 20 °C
Miscibility with water:	not established
Water solubility:	insoluble
Surface tension:	not established
Partition coefficient (n−octanol/water):	not established
Auto-ignition temperature:	not applicable
Ignition temperature:	not established
Decomposition temperature:	not established
Heat of combustion:	not established
Viscosity, dynamic:	5,700 - 7,700 mPa.s at 20 °C
Viscosity, kinematic:	not established

9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data.

Explosive properties:	not established
Dust explosion class:	not applicable
Oxidising properties:	not established

SECTION 10: Stability and reactivity

10.1 Reactivity

None known.

10.2 Chemical stability

Stable under recommended storage conditions. The product is chemically stable.

10.3 Possibility of hazardous reactions

In case of heating risk of exothermic polymerisation. Strong exothermic reactions with peroxides may occur in presence of heavy metal ions.

10.4 Conditions to avoid

Keep away from heat and sources of ignition.
Exposure to sunlight.

10.5 Incompatible materials

Exothermic reaction with: Strong acids and strong bases polymerisation initiators Avoid radical-forming starting agents, peroxides and reactive metals.

10.6 Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity, oral
ATEmix (oral): > 2,000 mg/kg
Method: Calculation method

Bisphenol A-epichlorohydrin copolymer acrylate laurate
LD50 rat, female: > 2,000 mg/kg

N,N-dimethylacrylamide
LD50 rat, male/female: > 215 mg/kg

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
LD50 rat, male/female: > 2,000 mg/kg
Method: OECD Test Guideline 401

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
LD50 rat, male/female: 1,984 mg/kg
Method: OECD Test Guideline 401

2,2-dimethoxy-1,2-diphenylethan-1-one
LD50 rat, male/female: 1,470 mg/kg

3-Trimethoxysilylpropane-1-thiol
LD50 rat, male: 893 mg/kg
Method: OECD Test Guideline 401

LD50 rat, female: 741 mg/kg
Method: OECD Test Guideline 401

2-hydroxyethyl acrylate
LD50 rat, male/female: 540 mg/kg

Acute toxicity, dermal
ATEmix (dermal):> 2,000 mg/kg
Method: Calculation method

Bisphenol A-epichlorohydrin copolymer acrylate laurate
LD50 rat: > 2,000 mg/kg

N,N-dimethylacrylamide
LD50 rabbit: 541 - 910 mg/kg

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
LD50 rat, male/female: > 2,000 mg/kg
Method: OECD Test Guideline 402

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
LD50 rat, male/female: > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Method: OECD Test Guideline 402

2,2-dimethoxy-1,2-diphenylethan-1-one
LD50 rat, male/female: > 5,000 mg/kg

3-Trimethoxysilylpropane-1-thiol
LD50 rabbit, male/female: > 2,000 mg/kg
Method: OECD Test Guideline 402

2-hydroxyethyl acrylate
LD50 rat, male/female: > 1,000 mg/kg
Method: OECD Test Guideline 402

Acute toxicity, inhalation
Bisphenol A-epichlorohydrin copolymer acrylate laurate
LC50 rat: > 4.9 mg/l, 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Method: OECD Test Guideline 403

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
No data available.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Assessment: no data available
No data available, supplier information

3-Trimethoxysilylpropane-1-thiol
rat, male/female:
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Method: OECD Test Guideline 403
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

2-hydroxyethyl acrylate
LC50 rat, female: > 1.45 mg/l, 7 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Primary skin irritation
Acrylated resin
Classification: Causes skin irritation.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Species: rabbit
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Species: rabbit
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404

3-Trimethoxysilylpropane-1-thiol
Species: rabbit
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404

2-hydroxyethyl acrylate
Species: rabbit
Result: Corrosive
Classification: Causes severe skin burns and eye damage (Skin Corr. 1B).

Primary mucosae irritation
Acrylated resin
Classification: Causes serious eye irritation.

N,N-dimethylacrylamide
Classification: Causes serious eye damage.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405

3-Trimethoxysilylpropane-1-thiol
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405

2-hydroxyethyl acrylate
Species: rabbit
Result: Corrosive
Classification: Causes serious eye damage.

Sensitisation
Bisphenol A-epichlorohydrin copolymer acrylate laurate
Classification: May cause sensitization by skin contact (Sub cat. 1B)

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Skin sensitization (local lymph node assay (LLNA)):
Species: Mouse
Result: positive
Classification: May cause sensitization by skin contact.
Method: OECD Test Guideline 429

Respiratory sensitization
No data available.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Skin sensitisation:
Species: Guinea pig
Result: negative
Classification: Does not cause skin sensitization.
Method: OECD Test Guideline 406

Respiratory sensitization
no data available

3-Trimethoxysilylpropane-1-thiol
Skin sensitisation according to Buehler (epicutaneous test):
Species: Guinea pig
Result: positive
Classification: May cause sensitization by skin contact (Sub cat. 1B)
Method: OECD Test Guideline 406

Respiratory sensitization
No data available.

2-hydroxyethyl acrylate
Skin sensitization (local lymph node assay (LLNA)):
Species: Mouse
Result: positive
Classification: May cause sensitization by skin contact.

Subacute, subchronic and prolonged toxicity
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
LOAEL (Lowest observable adverse effect level): 100 mg/kg
Application Route: Oral
Species: rat, male/female
Dose Levels: 0 - 100 - 300 - 1000 mg/kg bw/day
Method: OECD Test Guideline 408

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
NOAEL: 100 mg/kg
Application Route: Oral
Species: rat, male/female
Exposure duration: 4 Weeks
Frequency of treatment: daily
Method: OECD Test Guideline 407

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
NOAEL: 0.0024 mg/l
Application Route: Inhalative
Species: rat, male/female
Dose Levels: 0 - 0,0024 - 0,024 mg/l
Exposure duration: 1,5 a
Test substance: vapour

Carcinogenicity
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
No data available.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
No data available.

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
Species: rat, male/female
Application Route: Inhalative
Dose Levels: 0 - 0,0024 - 0,024 mg/l
Test substance: vapour
Exposure duration: 1,5 a
Result: Animal testing did not show any carcinogenic effects.

Reproductive toxicity/Fertility
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
NOAEL (parents, generelly toxicity): >= 200 mg/kg bw/day
NOAEL (parents, fertility): >= 200 mg/kg bw/day
NOAEL (offspring): >= 200 mg/kg bw/day
Species: rat, male/female
Application Route: Oral
Dose Levels: 0 - 40 - 100 - 200 mg/kg bw/day
Method: OECD Test Guideline 443

NOAEL (parents, generelly toxicity): > 900 mg/kg
NOAEL (parents, fertility): > 900 mg/kg
Test type: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test
Species: rat, male/female
Application Route: Oral
Method: OECD Test Guideline 422

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
NOAEL (parents, generelly toxicity): 40 mg/kg body weight/day
NOAEL (parents, fertility): 40 mg/kg body weight/day
NOAEL (offspring): 40 mg/kg body weight/day
Species: rat, male/female
Application Route: Oral
Frequency of treatment: daily
Method: OECD Test Guideline 415

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
NOAEL (parents, generelly toxicity): 0,019 mg/l
NOAEL (parents, fertility): 0,269 mg/l
NOAEL (offspring): 0,092 mg/l
Test type: Two-generation study
Species: rat, male/female
Dose Levels: 0- 0,019 - 0,092 - 0,269 mg/l
Test substance: vapour
Method: OECD Test Guideline 416

Toxicological studies of a comparable product.

Reproductive toxicity/Developmental Toxicity/Teratogenicity
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
NOAEL (teratogenicity): 1000 mg/kg bw/day
NOAEL (maternal): > 1000 mg/kg bw/day
Species: rat, female
Application Route: Oral
Dose Levels: 0 - 100 - 300 - 1000 mg/kg bw/day
Method: OECD Test Guideline 414

NOAEL (teratogenicity): 1000 mg/kg bw/day
NOAEL (maternal): 1000 mg/kg bw/day
Species: rabbit, female
Application Route: Oral
Dose Levels: 0 - 100 - 300 - 1000 mg/kg bw/day
Method: OECD Test Guideline 414

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
NOAEL (maternal): 40 mg/kg
LOAEL (teratogenicity): 40 mg/kg
LOAEL (developmental toxicity): 40 mg/kg bw/day
Species: rat, male and female
Application Route: Oral
Dose Levels: 0 - 40 - 80 - 120 mg/kg body weight/day
Frequency of treatment: daily
Method: OECD Test Guideline 414

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
NOAEL (maternal): 0.0241 mg/l
NOAEL (developmental toxicity): 0,0482 mg/l
Species: rat
Dose Levels: 0 - 4,8 - 24,1 - 48,2 µg/l
Test substance: vapour

Genotoxicity in vitro
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Test type: Ames test
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: In vitro mammalian cell gene mutation test
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 476

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster V79 cell line
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473

Test type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 476

3-Trimethoxysilylpropane-1-thiol
Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: Ames test
Test system: Escherichia coli
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 490

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster V79 cell line
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473

2-hydroxyethyl acrylate
Test type: Salmonella/microsome test (Ames test)
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative

Test type: Micronucleus test
Test system: Mouse lymphoma cells
Metabolic activation: without
Result: positive

Genotoxicity in vivo
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Test type: In vivo micronucleus test
Species: Mouse, male
Application Route: Oral
Result: negative
Method: OECD Test Guideline 474

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Test type: In vivo micronucleus test
Species: Chinese hamster, male/female
Application Route: Oral
Result: negative

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
Test type: Micronucleus test
Species: Mouse
Result: negative
Method: OECD Test Guideline 474
Toxicological studies of a comparable product.

STOT evaluation – one-time exposure

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Based on available data, the classification criteria are not met.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol
Based on available data, the classification criteria are not met.

2-hydroxyethyl acrylate
Based on available data, the classification criteria are not met.

STOT evaluation – repeated exposure
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Based on available data, the classification criteria are not met.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Based on available data, the classification criteria are not met.

2,2-dimethoxy-1,2-diphenylethan-1-one
May cause damage to organs through prolonged or repeated exposure.

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
Based on available data, the classification criteria are not met.

Aspiration toxicity

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Based on available data, the classification criteria are not met.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol
Based on available data, the classification criteria are not met.

2-hydroxyethyl acrylate
Based on available data, the classification criteria are not met.

CMR Assessment
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: May damage the unborn child (Repr. 1B).
Reproductive toxicity/Fertility: May damage fertility (Repr. 1B).

3-Trimethoxysilylpropane-1-thiol
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: No data available.
Reproductive toxicity/Fertility: No data available.

2-hydroxyethyl acrylate
Carcinogenicity: Based on available data, the classification criteria are not met.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

Toxicology Assessment

N,N-dimethylacrylamide
Acute effects: Causes serious eye damage.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Acute effects: Based on available data, the classification criteria are not met.
Sensitization: May cause an allergic skin reaction.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Acute effects: Harmful if swallowed.
Sensitization: Based on available data, the classification criteria are not met.

3-Trimethoxysilylpropane-1-thiol
Acute effects: Harmful if swallowed.
Sensitization: May cause an allergic skin reaction.

11.2 Information on other hazards

Endocrine disrupting properties
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Acute Fish toxicity
Bisphenol A-epichlorohydrin copolymer acrylate laurate
LC50 4.2 mg/l
Species: Fish
Exposure duration: 48 h
Method: OECD Test Guideline 203

N,N-dimethylacrylamide
LC50 > 120 mg/l
Species: Fish
Exposure duration: 96 h
Method: OECD Test Guideline 203

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
LC50 > 0.082 mg/l
Species: Cyprinus carpio (Carp)
Exposure duration: 96 h
Method: ISO 7346/1
No toxic effects in the water-soluble range.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
LC50 9 mg/l
Species: Danio rerio (zebra fish)
Exposure duration: 96 h
Method: OECD Test Guideline 203

2,2-dimethoxy-1,2-diphenylethan-1-one
LC50 29.67 mg/l
Species: Fish
Exposure duration: 96 h
Method: QSAR

3-Trimethoxysilylpropane-1-thiol
LC50 439 mg/l
Species: Danio rerio (zebra fish)
Exposure duration: 96 h
Method: Regulation (EC) No. 440/2008, Annex, C.1

2-hydroxyethyl acrylate
LC50 4.8 mg/l
Test type: Fresh water study
Species: Pimephales promelas (fathead minnow)
Exposure duration: 96 h

Chronic Fish toxicity
Bisphenol A-epichlorohydrin copolymer acrylate laurate
No data available.

N,N-dimethylacrylamide
No data available.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
EC10 0.43 mg/l
Species: Pimephales promelas (fathead minnow)
Exposure duration: 33 d
Method: OECD Test Guideline 210

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
No data available.

2,2-dimethoxy-1,2-diphenylethan-1-one
No data available.

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
No data available.

Acute toxicity for daphnia
Bisphenol A-epichlorohydrin copolymer acrylate laurate
No data available.

N,N-dimethylacrylamide
EC50 > 120 mg/l
Species: Daphnia (water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
EL50 > 100 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
EC50 15.3 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 24 h
Method: OECD Test Guideline 202

2,2-dimethoxy-1,2-diphenylethan-1-one
LC50 18.387 mg/l
Species: Daphnia (water flea)
Exposure duration: 48 h
Method: QSAR

3-Trimethoxysilylpropane-1-thiol
EC50 6.7 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: Regulation (EC) No. 440/2008, Annex, C.2

2-hydroxyethyl acrylate
EC50 9.3 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202

Chronic toxicity to daphnia
Bisphenol A-epichlorohydrin copolymer acrylate laurate
No data available.

N,N-dimethylacrylamide
No data available.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
EC10 > 0.51 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 21 d
Method: OECD Test Guideline 211

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
NOEC 1 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 21 d
Method: OECD Test Guideline 211

2,2-dimethoxy-1,2-diphenylethan-1-one
No data available.

3-Trimethoxysilylpropane-1-thiol
No data available.

2-hydroxyethyl acrylate
NOEC (Reproduction) 0.48 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 21 d
Method: OECD Test Guideline 211

Acute toxicity for algae
Bisphenol A-epichlorohydrin copolymer acrylate laurate
No data available.

N,N-dimethylacrylamide
EC50 > 400 mg/l
Species: algae
Exposure duration: 96 h
Method: OECD Test Guideline 201

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
EL50 105 mg/l
Species: Pseudokirchneriella subcapitata (green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
EC50 1.6 mg/l
Species: Desmodesmus subspicatus (Green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

NOEC 0.86 mg/l
Species: Desmodesmus subspicatus (Green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

2,2-dimethoxy-1,2-diphenylethan-1-one
EC50 19.666 mg/l
Species: algae
Exposure duration: 96 h

3-Trimethoxysilylpropane-1-thiol
NOEC 40 mg/l
endpoint: Growth inhibition
Species: Desmodesmus subspicatus (Green algae)
Exposure duration: 72 h
Method: Regulation (EC) No. 440/2008, Annex, C.3

EC50 931 mg/l
endpoint: Growth inhibition
Species: Desmodesmus subspicatus (Green algae)
Exposure duration: 72 h
Method: Regulation (EC) No. 440/2008, Annex, C.3

2-hydroxyethyl acrylate
EC50 6 mg/l
Test type: Fresh water study
Species: Pseudokirchneriella subcapitata (green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

NOEC 1 mg/l
Test type: Fresh water study
Species: Pseudokirchneriella subcapitata (green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

Acute bacterial toxicity
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
EC50 > 1,000 mg/l
Species: activated sludge
Exposure duration: 3 h
Method: OECD Test Guideline 209

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
EC50 > 100 mg/l
Species: activated sludge
Exposure duration: 3 h

EC50 > 100 mg/l
Species: activated sludge
Exposure duration: 3 h

3-Trimethoxysilylpropane-1-thiol
EC50 463 mg/l
Species: activated sludge

2-hydroxyethyl acrylate
EC10 > 100 mg/l
Species: Sewage sludge
Exposure duration: 72 h

Ecotoxicology Assessment
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Acute aquatic toxicity: Based on available data, the classification criteria are not met.
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Acute aquatic toxicity: Based on available data, the classification criteria are not met.
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

2,2-dimethoxy-1,2-diphenylethan-1-one
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

3-Trimethoxysilylpropane-1-thiol
Acute aquatic toxicity: Based on available data, the classification criteria are not met.
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

2-hydroxyethyl acrylate
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.
Impact on Sewage Treatment: Because of the low bacterial toxicity, there is no risk of an adverse effect on the performance of biological waste water treatment plants.

M-Factor
2-hydroxyethyl acrylate
M-factor (acute aquat. tox.): 1

12.2 Persistence and degradability

Biodegradability
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Biodegradation: 42 %, 28 d, i.e. not readily biodegradable (10 day time window criterion is not met)
Method: OECD Test Guideline 301 F

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Test type: aerobic
Inoculum: activated sludge
Biodegradation: <= 1 %, 28 d, i.e. not readily degradable
Method: OECD Test Guideline 301 B

3-Trimethoxysilylpropane-1-thiol
Test type: aerobic
Inoculum: activated sludge
Biodegradation: 51 %, 28 d, i.e. not readily degradable
Method: Regulation (EC) No. 440/2008, Annex, C.4-A

2-hydroxyethyl acrylate
Biodegradation: 79 %, 28 d, i.e. readily biodegradable
Method: OECD Test Guideline 301 B

12.3 Bioaccumulative potential

Bioaccumulation
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate
Method: OECD Test Guideline 305
An accumulation in aquatic organisms is not to be expected.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Bioconcentration factor (BCF): < 10
Species: Oryzias latipes (Orange-red killifish)
Exposure duration: 56 d

3-Trimethoxysilylpropane-1-thiol
no data available

Partition coefficient (n−octanol/water)
N,N-dimethylacrylamide

log Pow: -0.3
2,2-dimethoxy-1,2-diphenylethan-1-one

log Pow: 3.42
2-hydroxyethyl acrylate

log Pow: 0.21

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties

according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. Reference number 2008/98/EC

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. The classification of the product may meet the criteria for a hazardous waste. Offer surplus and non-recyclable solutions to a licensed disposal company. Do not dispose of waste into sewer.

13.1 Waste treatment methods

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Empty containers retain residue and can be dangerous. Containers must be recycled in compliance with national legislation and environmental regulations. Dispose of empty containers and wastes safely. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Where possible recycling is preferred to disposal or incineration.

No disposal into waste water.

SECTION 14: Transport information

ADR/RID

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

ADN

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

Dangerous goods classification for inland waterways tanker by request only.

IATA

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

IMDG

14.1 UN number or ID number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

14.6 Special precautions for user

See section 6 - 8.

Additional information	:	Not dangerous cargo. Keep separated from foodstuffs.

14.7 Maritime transport in bulk according to IMO instruments

Product is not transported by us in bulk.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Candidate List of Substances of Very High Concern for Authorisation
This product contains substances identified as SVHC according to REACH Regulation (EC) no. 1907/2006, Article 59. Please refer to section 3.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.
not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)
Conditions of restriction for the following entries should be considered: 3, 30

This product contains substances subject to EU Regulation 1907/2006 (REACH), Annex XVII.

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
CAS-No.: 71868-10-5, EC-No.: 400-600-6
Subject to REACH Annex XVII, No. 30

Water contaminating class (Germany)
3 highly water endangering
Classification according to AwSV, Annex 1 (5.2)

Other regulations
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for:
2-hydroxyethyl acrylate

SECTION 16: Other information

Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.

H301	Toxic if swallowed.
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.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms

ADN	Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
ATE	Acute Toxic Estimate
AwSv	Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
BCF	Bioconcentration Factor
CAS	Chemical Abstract Service
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
CMR	Cancerogenic Mutagenic Reprotoxic
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
EC…	Effect Concentration ... %
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LOAEL	Lowest Observable Adverse Effect Level
LC…	Lethal Concentration, ...%
LD…	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEL	No Observed Adverse Effect Level
NOEL/NOEC	No Observed Effect Level/Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire de marchandises Dangereuses
STOT	Specific Target Organ Toxicity
TRGS	Technische Regeln für Gefahrstoffe
vPvB	very Persistent, very Bioaccumulative
WGK	Wassergefährdungsklasse

Relevant changes since the last version are highlighted in the margin. This version replaces all previous versions.

Further information

Classification of the mixture:	Classification procedure:
Skin Irrit. 2 H315	Calculation method
Eye Dam. 1 H318	Calculation method
Skin Sens. 1 H317	Calculation method
Repr. 1B H360FD	Calculation method
Aquatic Chronic 3 H412	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Contact the professionals at Fiber Optic Center for a quote or to get more details.

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