Section 1. Identification of the substance/preparation and of the company/undertaking

Product name:
LOCTITE ECCOBOND UF 3808

Other means of identification:
LOCTITE ECCOBOND UF 3808

Product code:
IDH3157252

Recommended use of the chemical and restrictions on use

Intended use:
Epoxy adhesive

Manufacturer/Importer/Distributor Representative Company

Henkel Thailand Ltd. The Offices at Centralworld,
35th Floor, 999/9 Rama 1 Rd.,
Kwang Patumwan, Khet Patumwan,
10330 Bangkok

Thailand

Phone: +66 (2209) 8000
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E-mail address of person responsible for Safety Data Sheet:
ap-ua-psra.sea@henkel.com

Emergency Telephone for Chemical Accidents:
FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call: +662 209 8008

Section 2. Hazards identification

GHS Classification:

Hazard Class	Hazard Category	Route of Exposure	Target organ
Skin corrosion/irritation	Category 1C		
Serious eye damage/eye irritation	Category 1		
Skin sensitizer	Category 1		
Germ cell mutagenicity	Category 2		
Carcinogenicity	Category 1B		
Toxic to reproduction	Category 1B		
Specific target organ toxicity - repeated exposure	Category 2	Inhalation	respiratory tract
Chronic hazards to the aquatic environment	Category 1		

GHS label elements:

Hazard pictogram:



Signal word:
Danger

Hazard statement:
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Precaution:

Prevention:
P201 Obtain special instructions before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340+P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

Disposal:
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Section 3. Composition / information on ingredients

Substance or Mixture:
Mixture

Declaration of hazardous chemical:

Hazard component CAS-No.	Content	GHS Classification
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	10- 30 %	Skin corrosion/irritation 2 H315 Skin sensitizer 1A H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	10- 30 %	Acute toxicity 5; Oral H303 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	1- 10 %	Skin sensitizer 1B H317 Toxic to reproduction 1B H360 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 1 H410
2,3-epoxypropyl methacrylate 106-91-2	1- 10 %	Flammable liquids 4 H227 Acute toxicity 4; Oral H302 Acute toxicity 3; Dermal H311 Skin corrosion/irritation 1 H314 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341 Carcinogenicity 1B H350 Toxic to reproduction 1B H360 Specific target organ toxicity - single exposure 3 H335 Specific target organ toxicity - repeated exposure 1; Inhalation H372 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	1- 10 %	Acute toxicity 5; Oral H303 Skin sensitizer 1A H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	1- 10 %	Acute toxicity 5; Oral H303 Skin corrosion/irritation 3 H316 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 3 H412
Epoxy Resin Proprietary	1- 10 %	Acute toxicity 5; Oral H303 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341 Chronic hazards to the aquatic environment 2 H411
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1- 10 %	Skin sensitizer 1B H317
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	1- 10 %	Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
Carbon black - Nano 1333-86-4	1- 10 %	
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	0.1- 1 %	Flammable liquids 4 H227 Organic peroxides C H242 Skin sensitizer 1 H317 Toxic to reproduction 1B H360 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
4,4'-Isopropylidenediphenol 80-05-7	< 0.1 %	Acute toxicity 5; Oral H303 Acute toxicity 5; Dermal H313 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Toxic to reproduction 1B H360 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410

Section 4. First aid measures

Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

Indication of immediate medical attention and special treatment needed:
See section: Description of first aid measures

Section 5. Fire fighting measures

Suitable extinguishing media:
Foam, extinguishing powder, carbon dioxide.
Fine water spray

Improper extinguishing media:
High pressure waterjet

Specific hazards arising from the chemical:
Danger of decomposition if exposed to heat.
The product may undergo spontaneous polymerization at high temperatures. Polymerization is exothermic and may cause damage to the container and/or release of thermal decomposition products.
May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.
See section 10.

Special protection equipment and precautions for firefighters:
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions:
Wear protective equipment.
Ensure adequate ventilation.

Environmental precautions:
Do not empty into drains / surface water / ground water.

Clean-up methods:
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.
Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:
Ensure good ventilation/suction at the workplace.
Extract when the product is heated.
See advice in section 8

Storage:
Store in sealed original container.
Protect against contamination.
Store in a cool, dry place.
Store protected from heat influence.
Ensure that storage and workrooms are adequately ventilated.
Must be stored in a room with spill collection facilities.
Keep away from heat and direct sunlight.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Glycidyl methacrylate 106-91-2	**Value type**	Time Weighted Average (TWA):
	ppm	0.01
	Remarks	ACGIH
Glycidyl methacrylate 106-91-2	**Value type**	Skin designation:
	Remarks	ACGIH Danger of cutaneous absorption
CARBON BLACK, INHALABLE FRACTION 1333-86-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Body protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Engineering controls:
Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

General protection and hygiene measures:
The workplace should be equipped with an emergency shower and eye-rinsing facility.

Hygienic measures:
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Take off contaminated clothing and wash before reuse.

Section 9. Physical and chemical properties

Appearance:	Black Highly viscous, liquid
Odor:	Mild
Odor threshold (CA):	No data available.
pH:	Not available.Not applicable, Product is non-soluble (in water).
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	1.16
Boiling point:	No data available.
Flash point:	98 - 99 °C (208.4 - 210.2 °F)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Lower explosive limit:	No data available.
Upper explosive limit:	No data available.
Vapor pressure:	Not available.
Vapor density:	Not applicable
Density:	1.1 g/cm3
Solubility:	Not miscible or difficult to mix
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	Not available.
Decomposition temperature:	No data available.
Viscosity:	330 - 380 mPa.s (; 25 °C (77 °F))
VOC content: (2010/75/EC)	< 3 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Reacts with oxidants, acids and lyes
Reaction with reducing agents.
Heavy metals.
Reacts with alcohols and amines.
Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.
Chemical stability:
Stable under recommended storage conditions.
Possibility of hazardous reactions:
Rapid polymerization may generate excessive heat and pressure.

Conditions to avoid:
Danger of decomposition if exposed to heat.
Do not heat mixed adhesive unless you plan to use immediately.
Failure to observe these precautions may result in excessive heat build-up causing an exotherm.
Hazardous decomposition products:
Hydrocarbons
Irritating vapors.
At higher temperature carbon oxides and nitrogen oxides may be generated.
May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.
Polymerization may occur at elevated temperature or in the presence of incompatible materials.
See section 5.

Section 11. Toxicological information

Oral toxicity: Acute toxicity estimate (ATE) : > 2,000 mg/kg
Method: Calculation method

Dermal toxicity: Acute toxicity estimate (ATE) : > 2,000 mg/kg
Method: Calculation method

Symptoms of Overexposure**:** Causes burns.

Acute oral toxicity:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	EPA OTS 798.1175 (Acute Oral Toxicity)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Value type	Acute toxicity estimate (ATE)
	Value	2,500 mg/kg
	Species	
	Method	Expert judgement
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 423 (Acute Oral toxicity)
2,3-epoxypropyl methacrylate 106-91-2	Value type	LD50
	Value	597 mg/kg
	Species	rat
	Method	not specified
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	Acute toxicity estimate (ATE)
	Value	2,500 mg/kg
	Species	
	Method	Expert judgement
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Value type	LD50
	Value	3,160 mg/kg
	Species	rat
	Method	not specified
Epoxy Resin Proprietary	Value type	LD50
	Value	4,240 mg/kg
	Species	rat
	Method	not specified
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 420 (Acute Oral Toxicity)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 420 (Acute Oral Toxicity)
Carbon black - Nano 1333-86-4	Value type	LD50
	Value	> 8,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	LD50
	Value	> 10,000 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
4,4'-Isopropylidenediphenol 80-05-7	Value type	LD50
	Value	> 2,000 - < 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
4,4'-Isopropylidenediphenol 80-05-7	Value type	Acute toxicity estimate (ATE)
	Value	2,500 mg/kg
	Species	

	Method	Expert judgement

Acute inhalative toxicity:

Carbon black - Nano 1333-86-4	Value type	LC50
	Value	> 0.0046 mg/l
	Exposure time	4 h
	Species	rat
	Method	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	LC50
	Value	42.2 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Value type	LD50
	Value	> 1,000 - < 2,000 mg/kg
	Species	rat
	Method	EPA OTS 798.1100 (Acute Dermal Toxicity)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
2,3-epoxypropyl methacrylate 106-91-2	Value type	LD50
	Value	480 mg/kg
	Species	rabbit
	Method	not specified
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Value type	LD50
	Value	> 3,000 mg/kg
	Species	rabbit
	Method	not specified
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	LD50
	Value	16,800 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
4,4'-Isopropylidenediphenol 80-05-7	Value type	LD50
	Value	3,000 mg/kg
	Species	rabbit
	Method	not specified

Skin corrosion/irritation:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	irritating
	Exposure time	4 h
	Species	rabbit

	Method	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	irritating
	Exposure time	
	Species	rabbit
	Method	EPA OTS 798.4470 (Acute Dermal Irritation)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	not irritating
	Exposure time	
	Species	Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	not irritating
	Exposure time	24 h
	Species	rat
	Method	other guideline:
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	mildly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	irritating
	Exposure time	
	Species	
	Method	Weight of evidence
Carbon black - Nano 1333-86-4	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	irritating
	Exposure time	
	Species	rabbit
	Method	EPA OTS 798.4500 (Acute Eye Irritation)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	not irritating
	Exposure time	
	Species	Bovine, cornea, in vitro test
	Method	OECD Guideline 437 (BCOP)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	not irritating
	Exposure time	72 h
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	FDA Guideline
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	slightly irritating
	Exposure time	
	Species	rabbit
	Method	Draize Test
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	irritating
	Exposure time	
	Species	
	Method	Weight of evidence
Carbon black - Nano 1333-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	Sub-Category 1A (sensitising)
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	EPA OTS 798.4100 (Skin Sensitisation)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	Sub-Category 1B (sensitising)
	Test type	Freund's complete adjuvant test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	Sub-Category 1A (sensitising)
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Result	Sub-Category 1B (sensitising)
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Carbon black - Nano 1333-86-4	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Result	sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
4,4'-Isopropylidenediphenol 80-05-7	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	positive
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	positive
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	positive
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
2,3-epoxypropyl methacrylate 106-91-2	Result	positive
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	positive without metabolic activation
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	positive without metabolic activation
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Result	positive
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells

3101-60-8	Metabolic activation / Exposure time	without
	Method	OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 489 (In Vivo Mammalian Alkaline Comet Assay)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	negative
	Type of study / Route of administration	
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 490 (In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	inhalation
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 489 (In Vivo Mammalian Alkaline Comet Assay)

4,4'-Isopropylidenediphenol 80-05-7	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	not specified

Repeated dose toxicity:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	NOAEL=250 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	13 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	NOAEL=> 1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	4 wdaily
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	13 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	NOAEL=100 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	NOAEL=50 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	14 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Carbon black - Nano 1333-86-4	Result	NOAEL=> 1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Carbon black - Nano 1333-86-4	Result	NOAEL=1 mg/m3
	Route of application	inhalation
	Exposure time / Frequency of treatment	13 w6 h/d, 5 d/w
	Species	rat
	Method	not specified

Section 12. Ecological information

General ecological information: Do not empty into drains / surface water / ground water.

Ecotoxicity: H410 Very toxic to aquatic life with long lasting effects.

Toxicity:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Value type	LC50
	Value	5.7 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h

	Species	Leuciscus idus
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Value type	EC50
	Value	2.55 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Value type	EC50
	Value	1.8 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, industrial
	Method	other guideline:
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Value type	EC50
	Value	25.6 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Value type	LC50
	Value	1.65 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	EC10
	Value	0.0046 mg/l
	Acute Toxicity Study	Fish
	Exposure time	33 d
	Species	Danio rerio
	Method	OECD Guideline 210 (fish early life stage toxicity test)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Value type	EC50
	Value	2.36 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Value type	EC50
	Value	1.6 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	0.64 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,3-epoxypropyl methacrylate 106-91-2	Value type	LC50
	Value	2.8 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oryzias latipes
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	NOEC
	Value	>= 0.093 mg/l
	Acute Toxicity Study	Fish
	Exposure time	32 d
	Species	Pimephales promelas
	Method	OECD Guideline 210 (fish early life stage toxicity test)
2,3-epoxypropyl methacrylate 106-91-2	Value type	EC50
	Value	24.9 mg/l

	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,3-epoxypropyl methacrylate 106-91-2	Value type	NOEC
	Value	3.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC50
	Value	14.6 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	LC50
	Value	7.5 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	EC50
	Value	67.9 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	EC50
	Value	9 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Value type	LC50
	Value	1.79 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Value type	EC50
	Value	> 2.57 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Value type	EC50
	Value	2.66 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	0.254 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Epoxy Resin Proprietary	Value type	LC50
	Value	1.2 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	EPA-660 (Methods for Acute Toxicity Tests with Fish,

		Macroinvertebrates and Amphibians)
Epoxy Resin Proprietary	Value type	EC50
	Value	2.7 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	other guideline:
Epoxy Resin Proprietary	Value type	EC50
	Value	> 11 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus capricornutum
	Method	other guideline:
	Value type	NOEC
	Value	4.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus capricornutum
	Method	other guideline:
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Value type	LC50
	Value	> 160 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	LC50
	Value	1.75 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	EC50
	Value	1.7 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	EC50
	Value	> 11 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus capricornutum
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	4.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus capricornutum
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria

number average molecular weight ≤ 700 25068-38-6	Exposure time	3 h
	Species	activated sludge, industrial
	Method	other guideline:
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	LC50
	Value	8.66 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Poecilia reticulata
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	EC50
	Value	7.5 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	EC50
	Value	0.44 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata (reported as Selenastrum capricornutum)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	0.018 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata (reported as Selenastrum capricornutum)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Value type	EC50
	Value	64 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
4,4'-Isopropylidenediphenol 80-05-7	Value type	LC50
	Value	4.6 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	LOEC
	Value	0.000372 mg/l
	Acute Toxicity Study	Fish
	Exposure time	300 d
	Species	Danio rerio
	Method	OECD Guideline 234 (Fish Sexual Development Test)
4,4'-Isopropylidenediphenol 80-05-7	Value type	EC50
	Value	0.885 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Acartia clausi
	Method	other guideline:
4,4'-Isopropylidenediphenol 80-05-7	Value type	EC50
	Value	3.73 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	other:
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	2.1 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-Isopropylidenediphenol 80-05-7	Value type	EC10
	Value	> 320 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	18 h
	Species	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)

Persistence and degradability:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	16.5 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	28 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2,3-epoxypropyl methacrylate 106-91-2	Result	readily biodegradable, but failing 10-day window
	Route of application	aerobic
	Degradability	94 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	1.1 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Result	readily biodegradable
	Route of application	aerobic
	Degradability	70 %
	Method	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test)
Epoxy Resin Proprietary	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	5 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0.8 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	5 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	55 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
4,4'-Isopropylidenediphenol 80-05-7	Result	readily biodegradable
	Route of application	aerobic
	Degradability	89 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

Bioaccumulative potential / Mobility in soil:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	LogPow	2.7 - 3.6
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
6-glycidyloxynapht-1-yl oxymethyloxirane 27610-48-6	LogPow	2.3
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate 42594-17-2	LogPow	4.6
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

2,3-epoxypropyl methacrylate 106-91-2	LogPow	0.96
	Temperature	25 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	LogPow	3.59
	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	Bioconcentration factor (BCF)	37
	Exposure time	56 day
	Species	Danio rerio
	Temperature	24 °C
	Method	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3	LogPow	5.09
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Epoxy Resin Proprietary	LogPow	1.79
	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
reaction products of 2-methylimidazole and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	LogPow	2.37
	Temperature	
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	LogPow	3.242
	Temperature	25 °C
	Method	EU Method A.8 (Partition Coefficient)
tert-Butyl peroxy(2-ethyl)-hexanoate 3006-82-4	LogPow	4.79
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
4,4'-Isopropylidenediphenol 80-05-7	Bioconcentration factor (BCF)	5.1 - 67
	Exposure time	42 d
	Species	Cyprinus carpio
	Temperature	25 °C
	Method	other guideline:
4,4'-Isopropylidenediphenol 80-05-7	LogPow	3.4
	Temperature	21.5 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Section 13. Disposal considerations

Product

Method of disposal:
Dispose of in accordance with local and national regulations.

Packaging

Disposal of uncleaned packages:
Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Section 14. Transport information

Road transport ADR:

Class:	8
Packing group:	III
Classification code:	C9
Hazard ident. number:	80
UN no.:	1760
Label:	8
Technical name:	CORROSIVE LIQUID, N.O.S. (2,3-epoxypropyl methacrylate)

Railroad transport RID:

Class:	8
Packing group:	III
Classification code:	C9
Hazard ident. number:	80
UN no.:	1760
Label:	8
Technical name:	CORROSIVE LIQUID, N.O.S. (2,3-epoxypropyl methacrylate)

Inland water transport ADN:

Class:	8
Packing group:	III
Classification code:	C9
Hazard ident. number:	80
UN no.:	1760
Label:	8
Technical name:	CORROSIVE LIQUID, N.O.S. (2,3-epoxypropyl methacrylate)

Marine transport IMDG:

Class:	8
Packing group:	III
UN no.:	1760
Label:	8
EmS:	F-A ,S-B
Seawater pollutant:	Marine pollutant
Proper shipping name:	CORROSIVE LIQUID, N.O.S. (2,3-epoxypropyl methacrylate,Epoxy resin)

Air transport IATA:

Class:	8
Packing group:	III
Packaging instructions (passenger):	852
Packaging instructions (cargo):	856
UN no.:	1760
Label:	8
Proper shipping name:	Corrosive liquid, n.o.s. (2,3-epoxypropyl methacrylate)

Section 15. Regulatory information

Regulatory Information:
Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555

Global inventory status:

Regulatory list	Notification
TCSI	yes
TSCA	yes
ISHL (JP)	yes
KECI (KR)	yes
IECSC	yes

Section 16. Other information

Disclaimer:
This Safety Data Sheet has been generated based on Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555 only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.
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