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

Product name:
LOCTITE ECCOBOND FP4526 10CC

Other means of identification:
LOCTITE ECCOBOND FP4526 10CC

Product code:
IDH2453381
Recommended use of the chemical and restrictions on use

Intended use:
Encapsulant
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
Fax-no.: +66 (2209) 8008

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
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Toxic to reproduction	Category 1B
Chronic hazards to the aquatic environment	Category 3

GHS label elements:

Hazard pictogram:



Signal word:
Danger

Hazard statement:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H412 Harmful 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:
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

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
Silica, vitreous 60676-86-0	30- 60 %	
hexahydromethylphthalic anhydride 25550-51-0	10- 30 %	Serious eye damage/eye irritation 1 H318 Respiratory sensitizer 1 H334 Skin sensitizer 1 H317
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	1- 10 %	Acute toxicity 5; Oral H303 Skin sensitizer 1 H317 Carcinogenicity 2 H351
Si-oxide amorphous (fumed) 7631-86-9	1- 10 %	
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
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	1- 10 %	Acute toxicity 5; Oral H303 Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	1- 10 %	Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Toxic to reproduction 1B H360 Acute hazards to the aquatic environment 3 H402
tetrahydro-4-methylphthalicanhydride 34090-76-1	1- 10 %	Serious eye damage/eye irritation 1 H318 Respiratory sensitizer 1 H334 Skin sensitizer 1 H317 Acute hazards to the aquatic environment 3 H402
Decyloxirane 2855-19-8	0.1- 1 %	Skin corrosion/irritation 2 H315 Skin sensitizer 1 H317 Acute hazards to the aquatic environment 2

		H401
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	0.1- 1 %	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

Section 4. First aid measures

Inhalation:
Move to fresh air, consult doctor if complaint persists.

Skin contact:
Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

Eye contact:
Wash with plenty of water immediately and continue for several minutes, holding eyelid open. Consult a doctor.

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

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.
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:
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.

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

Clean-up methods:
Remove mechanically.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:
Ensure good ventilation/suction at the workplace.
Avoid open flames.
See advice in section 8

Storage:
Store in sealed original container.
Protect against contamination.
Store in a cool, dry place.
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.
Storage at -45 to -35°C is recommended.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 60676-86-0	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 60676-86-0	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 7631-86-9	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 7631-86-9	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	ACGIH
Si-oxide amorphous (fumed) 7631-86-9	**Value type**	Time Weighted Average (TWA):
	mg/m³	6
Methyltetrahydrophthalic anhydride isomers 34090-76-1	**Value type**	Skin designation:
	Remarks	ACGIH Danger of cutaneous absorption
Methyltetrahydrophthalic anhydride isomers 34090-76-1	**Value type**	Short Term Exposure Limit (STEL):
	ppm	0.0003
	Remarks	ACGIH
Methyltetrahydrophthalic anhydride isomers 34090-76-1	**Value type**	Time Weighted Average (TWA):
	ppm	0.00007
	Remarks	ACGIH
Methyltetrahydrophthalic anhydride isomers 34090-76-1	**Value type**	Threshold Limit Value-Surface Limit (TLV-SL):
	Remarks	ACGIH

Respiratory protection:
Suitable breathing mask when there is inadequate ventilation.
Use filter A-P2 if vapours/aerosols occur which may be inhaled.

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:	Blue liquid
Odor:	Characteristic
Odor threshold (CA):	No data available.
pH:	> 0.1
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	1.8
Boiling point:	No data available.
Flash point: (Closed cup)	> 260 °C (> 500 °F)
Evaporation rate:	No data available.
Flammability (solid, gas):	Not flammable.
Lower explosive limit:	No data available.
Upper explosive limit:	No data available.
Vapor pressure:	Not available.
Vapor density:	Not available.
Density:	1.8 g/cm3
Solubility:	Not miscible or difficult to mix (20 °C)
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	Not available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
VOC content: (2010/75/EC)	< 3 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Reacts with alcohols and amines.
Reacts with oxidants, acids and lyes
Chemical stability:
Stable under recommended storage conditions.

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.
Humidity
Hazardous decomposition products:
Hydrocarbons
Polymerization may occur at elevated temperature or in the presence of incompatible materials.
May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.
See section 5.

Section 11. Toxicological information

Oral toxicity:	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method
Inhalative toxicity:	Acute toxicity estimate (ATE) : > 20 mg/l Exposure time: 4 h Test atmosphere: Vapor. Method: Calculation method
Dermal toxicity:	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method

Health Effects:

Skin:	Causes skin irritation.
	May cause an allergic skin reaction.
Eyes:	Causes serious eye damage.
Inhalation:	May cause allergic respiratory reaction.
Symptoms of Overexposure**:**	None known.

Acute oral toxicity:

Silica, vitreous 60676-86-0	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
hexahydromethylphthalic anhydride 25550-51-0	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	EU Method B.1 tris (Acute Oral Toxicity)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Value type	LD50
	Value	3,563 mg/kg
	Species	rat
	Method	EU Method B.1 bis (Acute Oral Toxicity)
Si-oxide amorphous (fumed) 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	LD50
	Value	5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	LD50
	Value	1,118 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
tetrahydro-4-methylphthalicanhydride 34090-76-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Decyloxirane 2855-19-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	EU Method B.1 (Acute Toxicity (Oral))
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)

Acute inhalative toxicity:

Si-oxide amorphous (fumed) 7631-86-9	Value type	LC50
	Value	> 5.01 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class (ATC) Method)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	LC50
	Value	> 5.19 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class (ATC) Method)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	Acute toxicity estimate (ATE)
	Value	11.01 mg/l
	Exposure time	4 h
	Species	
	Method	Expert judgement

Acute dermal toxicity:

Silica, vitreous 60676-86-0	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	not specified
hexahydromethylphthalic anhydride 25550-51-0	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	EU Method B.3 (Acute Toxicity (Dermal)
Si-oxide amorphous (fumed) 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	LD50
	Value	1,130 mg/kg
	Species	rabbit
	Method	not specified
tetrahydro-4-methylphthalicanhydride 34090-76-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (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)

Skin corrosion/irritation:

hexahydromethylphthalic anhydride 25550-51-0	Result	moderately irritating
	Exposure time	24 h

	Species	rabbit
	Method	other guideline:
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion)
Si-oxide amorphous (fumed) 7631-86-9	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
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Decyloxirane 2855-19-8	Result	moderately irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
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)

Serious eye damage/irritation:

2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	slightly irritating
	Exposure time	24 h
	Species	rabbit
	Method	EU Method B.5 (Acute Toxicity: Eye Irritation / Corrosion)
Si-oxide amorphous (fumed) 7631-86-9	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
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	not irritating
	Exposure time	9 d
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	Category 1 (irreversible effects on the eye)
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Decyloxirane 2855-19-8	Result	slightly irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
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)

Respiratory or skin sensitization:

2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	EU Method B.6 (Skin Sensitisation)
Si-oxide amorphous (fumed) 7631-86-9	Result	not sensitising
	Test type	
	Species	human
	Method	not specified
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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
Decyloxirane 2855-19-8	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	Magnusson and Kligman Method
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)

Germ cell mutagenicity:

hexahydromethylphthalic anhydride 25550-51-0	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)
hexahydromethylphthalic anhydride 25550-51-0	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)
hexahydromethylphthalic anhydride 25550-51-0	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)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	positive
	Type of study / Route of administration	bacterial gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	not specified
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	positive
	Type of study / Route of administration	
	Metabolic activation / Exposure time	with and without
	Method	not specified
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	no data
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	not specified
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Result	positive
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	EU Method B.12 (Mutagenicity
Si-oxide amorphous (fumed) 7631-86-9	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)
Si-oxide amorphous (fumed) 7631-86-9	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)
Si-oxide amorphous (fumed) 7631-86-9	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)
Si-oxide amorphous (fumed) 7631-86-9	Result	negative
	Type of study / Route of administration	inhalation
	Metabolic activation / Exposure time	
	Species	rat
	Method	not specified
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
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	positive with 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)
7-Oxabicyclo[4.1.0]hept-3-	Result	negative

ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	positive
	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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	positive without metabolic activation
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	ambiguous
	Type of study / Route of administration	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	positive
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 488 (In Vivo Transgenic Cell Gene Mutation Assays)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	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)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	positive
	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)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	positive
	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)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
tetrahydro-4-methylphthalicanhydride 34090-76-1	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)
Decyloxirane 2855-19-8	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	not specified
Reaction mass bisphenol-F-(epichlorhydrin)	Result	positive
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)

9003-36-5	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)

Repeated dose toxicity:

hexahydromethylphthalic anhydride 25550-51-0	Result	NOAEL=450 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 donce a day, 7 days a week
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Si-oxide amorphous (fumed) 7631-86-9	Result	NOAEL=> 4,000 - 4,500 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	13 weeksdaily
	Species	rat
	Method	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Si-oxide amorphous (fumed) 7631-86-9	Result	NOAEL=1.3 mg/m3
	Route of application	inhalation
	Exposure time / Frequency of treatment	13 w6 h/d, 5 d/w
	Species	rat
	Method	equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	NOAEL=5 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	91 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	NOAEL=200 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 ddaily
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
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)

Section 12. Ecological information

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

Ecotoxicity: H412 Harmful to aquatic life with long lasting effects.

Toxicity:

Silica, vitreous 60676-86-0	Value type	LC50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Silica, vitreous 60676-86-0	Value type	EC50
	Value	7,600 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Ceriodaphnia dubia
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silica, vitreous 60676-86-0	Value type	EC50
	Value	440 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
hexahydromethylphthalic anhydride 25550-51-0	Value type	LC50
	Value	500 mg/l
	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Oryzias latipes
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
hexahydromethylphthalic anhydride 25550-51-0	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)
hexahydromethylphthalic anhydride 25550-51-0	Value type	EC50
	Value	135 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	32 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
hexahydromethylphthalic anhydride 25550-51-0	Value type	EC20
	Value	95.3 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, domestic
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Value type	LC50
	Value	> 0.1 mg/l
	Acute Toxicity Study	Fish
	Exposure time	24 h
	Species	Oncorhynchus mykiss
	Method	EU Method C.1 (Acute Toxicity for Fish)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	Value type	EC50
	Value	> 0.15 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	EU Method C.2 (Acute Toxicity for Daphnia)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-	Value type	NOEC
	Value	> 0.15 mg/l

bis(oxymethylene))-bis-oxirane 85954-11-6	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	EU Method C.3 (Algal Inhibition test)
	Value type	EC50
	Value	> 0.15 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	EU Method C.3 (Algal Inhibition test)
Si-oxide amorphous (fumed) 7631-86-9	Value type	LC50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Si-oxide amorphous (fumed) 7631-86-9	Value type	EL50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Si-oxide amorphous (fumed) 7631-86-9	Value type	NOELR
	Value	10,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EL50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Si-oxide amorphous (fumed) 7631-86-9	Value type	EC0
	Value	10,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	Pseudomonas putida
	Method	DIN 38412, part 27 (Bacterial oxygen consumption 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, number average molecular weight ≤ 700 25068-38-6	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, industrial
	Method	other guideline:

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	LC50
	Value	24 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	EC50
	Value	40 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	EC50
	Value	> 110 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	30 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Value type	EC10
	Value	409 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)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	LC50
	Value	19.8 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	1.11 mg/l
	Acute Toxicity Study	Fish
	Exposure time	35 d
	Species	Danio rerio
	Method	OECD Guideline 210 (fish early lite stage toxicity test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	EC50
	Value	75 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	EC50
	Value	> 160 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)
	Value type	NOELR
	Value	40 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)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
tetrahydro-4-methylphthalicanhydride 34090-76-1	Value type	LC50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h

	Species	Oryzias latipes
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
tetrahydro-4-methylphthalicanhydride 34090-76-1	Value type	EC50
	Value	130 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
tetrahydro-4-methylphthalicanhydride 34090-76-1	Value type	EC50
	Value	79 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	NOEC
	Value	32 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)
tetrahydro-4-methylphthalicanhydride 34090-76-1	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	
	Method	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Decyloxirane 2855-19-8	Value type	LC50
	Value	3.3 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	not specified
Decyloxirane 2855-19-8	Value type	EC0
	Value	10,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	
	Method	not specified
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:

Persistence and degradability:

hexahydromethylphthalic anhydride 25550-51-0	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	2 %

	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry 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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	71 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	71 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	38 %
	Method	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	98 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
tetrahydro-4-methylphthalicanhydride 34090-76-1	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Decyloxirane 2855-19-8	Result	
	Route of application	aerobic
	Degradability	87 %
	Method	ISO 10708 (BODIS-Test)
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)

Bioaccumulative potential / Mobility in soil:

hexahydromethylphthalic anhydride 25550-51-0	Bioconcentration factor (BCF)	11.12
	Exposure time	
	Species	calculated
	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
hexahydromethylphthalic anhydride 25550-51-0	LogPow	2.59
	Temperature	25 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
2,2'-((3,3', 5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane 85954-11-6	LogPow	2.9
	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Si-oxide amorphous (fumed) 7631-86-9	LogPow	0.53
	Temperature	25 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
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)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	LogPow	1.34
	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
1,4-bis(2,3 epoxypropoxy)butane	LogPow	-0.269
	Temperature	25 °C

2425-79-8	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
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)

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:
Not dangerous goods

Railroad transport RID:
Not dangerous goods

Inland water transport ADN:
Not dangerous goods

Marine transport IMDG:
Not dangerous goods

Air transport IATA:
Not dangerous goods

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
DSL	yes
ISHL (JP)	yes
KECI (KR)	yes
PICCS (PH)	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.
This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.
Dear Customer,
Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).