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

Product name:
LOCTITE ECCOBOND UF 1173 10cc Aptiv

Other means of identification:
LOCTITE ECCOBOND UF 1173 10cc Aptiv

Product code:
IDH3063828
Recommended use of the chemical and restrictions on use

Intended use:
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
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 2
Skin sensitizer	Category 1
Chronic hazards to the aquatic environment	Category 3

GHS label elements:

Hazard pictogram:



Signal word:
Warning

Hazard statement:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Precaution:

Prevention:
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, eye protection, and face protection.

Response:
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

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 %	
Si-oxide amorphous (fumed) 7631-86-9	10- 30 %	
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	10- 30 %	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
2,2'-(Phenylene)bis[oxirane] 30424-08-9	10- 30 %	Acute toxicity 5; Oral H303 Acute toxicity 5; Dermal H313 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1A H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	1- 10 %	Acute toxicity 4; Oral H302 Serious eye damage/eye irritation 2B H320 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	1- 10 %	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
2-(Ethylphenyl)oxirane 58220-88-5	0.1- 1 %	Skin sensitizer 1 H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
2-Ethyl-4-methylimidazole 931-36-2	0.1- 1 %	Acute toxicity 4; Oral H302 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1B H317 Acute hazards to the aquatic environment 3 H402

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.

Section 5. Fire fighting measures

Suitable extinguishing media:
water, carbon dioxide, foam, powder

Improper extinguishing media:
High pressure waterjet

Specific hazards arising from the chemical:
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

Special protection equipment and precautions for firefighters:
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional fire fighting advice:
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:
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:
Avoid skin and eye contact.
See advice in section 8

Storage:
Ensure good ventilation/extraction.
Keep container tightly sealed.
Refer to Technical Data Sheet.

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

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 liquid
Odor:	Mild
Odor threshold (CA):	No data available.
pH:	Not applicable, Product is non-soluble (in water).
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	1.68
Boiling point:	No data available.
Flash point:	> 110 °C (> 230 °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:	No data available.
Vapor density:	No data available.
Density:	1.68 g/cm3
Solubility:	Insoluble
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	No data available.
Decomposition temperature:	No data available.
Viscosity:	12,000 - 16,000 mPa.s (Brookfield; speed of rotation: 5 min-1; Method: no method / method unknown)
VOC content: (2010/75/EC)	< 3 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Reaction with strong acids.
Reacts with strong oxidants.
Chemical stability:
Stable under recommended storage conditions.
Conditions to avoid:
Stable under normal conditions of storage and use.
Hazardous decomposition products:
carbon oxides.

Section 11. Toxicological information

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

Health Effects:
Skin: Causes skin irritation.
May cause allergic skin reaction.
Eyes: Causes serious eye irritation.
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
Si-oxide amorphous (fumed) 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 420 (Acute Oral Toxicity)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 420 (Acute Oral Toxicity)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	Acute toxicity estimate (ATE)
	Value	2,500 mg/kg
	Species	
	Method	Expert judgement
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Value type	LD50
	Value	500 mg/kg
	Species	rat
	Method	OECD Guideline 423 (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)
2-(Ethylphenyl)oxirane 58220-88-5	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	not specified
2-Ethyl-4-methylimidazole 931-36-2	Value type	LD50
	Value	622 mg/kg
	Species	rat
	Method	not specified

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)

Acute dermal toxicity:

Silica, vitreous 60676-86-0	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	not specified
Si-oxide amorphous (fumed) 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	Acute toxicity estimate (ATE)
	Value	2,500 mg/kg
	Species	
	Method	Expert judgement
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)
2-(Ethylphenyl)oxirane 58220-88-5	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	not specified

Skin corrosion/irritation:

Si-oxide amorphous (fumed) 7631-86-9	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	moderately irritating
	Exposure time	24 h
	Species	rabbit
	Method	Draize Test
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	irritating
	Exposure time	
	Species	
	Method	Weight of evidence
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Result	irritating or corrosive
	Exposure time	15 min
	Species	Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)
	Method	EU Method B.46 (In vitro skin irrit.: reconstructed human epidermis model test)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Result	not corrosive
	Exposure time	240 min
	Species	Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
2,2'-(Phenylene)bis[oxirane]	Result	irritating

30424-08-9	Exposure time	
	Species	
	Method	Weight of evidence
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	not irritating
	Exposure time	
	Species	Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	not corrosive
	Exposure time	
	Species	Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
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)
2-Ethyl-4-methylimidazole 931-36-2	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Si-oxide amorphous (fumed) 7631-86-9	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	irritating
	Exposure time	
	Species	
	Method	Weight of evidence
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Result	irritating
	Exposure time	
	Species	
	Method	expert judgment
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	Category 2B (mildly irritating to eyes)
	Exposure time	
	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)
2-Ethyl-4-methylimidazole 931-36-2	Result	highly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Si-oxide amorphous (fumed) 7631-86-9	Result	not sensitising
	Test type	
	Species	human
	Method	not specified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Result	Sub-Category 1A (sensitising)
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	negative
	Test type	Direct peptide reactivity assay (DPRA)
	Species	cysteine and lysine, in chemico test
	Method	OECD Guideline 442C (Direct Peptide Reactivity Assay (DPRA))
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	negative
	Test type	Activation of keratinocytes
	Species	human keratinocytes, in vitro test
	Method	OECD Guideline 442D (ARE-Nrf2 Luciferase Test Method)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	negative
	Test type	activation of dendritic cells
	Species	human monocytes, in vitro test
	Method	OECD Guideline 442E (H-CLAT: Human Cell Line Activation Test)
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:

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
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	EU Method B.13/14 (Mutagenicity)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	negative with metabolic activation
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	not specified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 488 (In Vivo Transgenic Cell Gene Mutation Assays)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	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)
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)

Repeated dose toxicity:

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)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	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)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	NOAEL=100 mg/kg
	Route of application	dermal
	Exposure time / Frequency of treatment	13 w3 times/w
	Species	mouse
	Method	OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Result	NOAEL=50 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)
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)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	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)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Value type	EC50
	Value	2.7 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	other guideline:
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	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:
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, industrial
	Method	other guideline:

2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	LC50
	Value	2.4 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	EC50
	Value	1.2 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	EC50
	Value	21 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	3.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Value type	EC50
	Value	160 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Value type	EC50
	Value	99.9 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Value type	EC50
	Value	65 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	27.4 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	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:
2-(Ethylphenyl)oxirane 58220-88-5	Value type	LC50
	Value	2.4 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-(Ethylphenyl)oxirane 58220-88-5	Value type	EC50
	Value	1.2 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-(Ethylphenyl)oxirane 58220-88-5	Value type	ErC50
	Value	21 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-(Ethylphenyl)oxirane 58220-88-5	Value type	EC50
	Value	160 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-Ethyl-4-methylimidazole 931-36-2	Value type	LC50
	Value	68.1 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Leuciscus idus
	Method	DIN 38412-15
2-Ethyl-4-methylimidazole 931-36-2	Value type	EC50
	Value	297.3 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	EU Method C.2 (Acute Toxicity for Daphnia)
2-Ethyl-4-methylimidazole 931-36-2	Value type	EC50
	Value	124.8 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	DIN 38412-09
	Value type	EC10
	Value	56.7 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	DIN 38412-09

Persistence and degradability:

Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Result	not inherently biodegradable
	Route of application	not specified
	Degradability	12 %
	Method	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	5 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	16 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-	Result	not readily biodegradable.
	Route of application	aerobic

propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Degradability	0 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
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)
2-(Ethylphenyl)oxirane 58220-88-5	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	16 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-Ethyl-4-methylimidazole 931-36-2	Result	readily biodegradable
	Route of application	aerobic
	Degradability	86 %
	Method	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)

Bioaccumulative potential / Mobility in soil:

Si-oxide amorphous (fumed) 7631-86-9	LogPow	0.53
	Temperature	25 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	LogPow	> 2.64 - 3.78
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	LogPow	1.36 - 2.68
	Temperature	
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Reaction mass of 2-ethyl-4-methyl-1H-imidazole-1-propiononitrile and 2-ethyl-5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	LogPow	< 0.3
	Temperature	25 °C
	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)
2-Ethyl-4-methylimidazole 931-36-2	LogPow	1.13
	Temperature	25 °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:
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
TSCA	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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