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

Product name:
LOCTITE ECCOBOND UF 1175 30CC

Other means of identification:
LOCTITE ECCOBOND UF 1175 30CC

Product code:
IDH2765900

Recommended use of the chemical and restrictions on use

Intended use:
Underfill

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	Route of Exposure	Target organ
Skin corrosion/irritation	Category 2		
Serious eye damage/eye irritation	Category 2A		
Skin sensitizer	Category 1		
Germ cell mutagenicity	Category 2		
Specific target organ toxicity - repeated exposure	Category 2	Oral	Gastrointestinal tract Female reproductive organs stomach
Chronic hazards to the aquatic environment	Category 2		

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.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
H411 Toxic to aquatic life with long lasting effects.

Precaution:

Prevention:
P201 Obtain special instructions before use.
P260 Do not breathe 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.
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.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
Storage:
P405 Store locked up.
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 %	
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	10- 30 %	Acute toxicity 4; Oral H302 Acute toxicity 5; Dermal H313 Skin sensitizer 1A H317 Germ cell mutagenicity 2 H341 Specific target organ toxicity - repeated exposure 2; Oral H373 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
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
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
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
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 not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.

Skin contact:
Immediately flush skin with plenty of water (using soap, if available).
Remove contaminated clothing and footwear.
Wash clothing before reuse.
If symptoms develop and persist, get medical attention.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Get medical attention.

Ingestion:
DO NOT induce vomiting unless directed to do so by medical personnel.
Never give anything by mouth to an unconscious person.
Get medical attention.

Section 5. Fire fighting measures

Suitable extinguishing media:
Water spray (fog), foam, dry chemical or carbon dioxide.
Do not use direct water stream on burning liquid.

Specific hazards arising from the chemical:
This product is combustible at high temperatures.
Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
Isolate from heat, electrical equipment, sparks, and open flame.

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.

Hazardous combustion products:
Oxides of carbon, oxides of nitrogen, irritating organic vapors.

Section 6. Accidental release measures

Environmental precautions:
Eliminate ignition sources including sources of electrical, static or frictional sparks.
Do not empty into drains / surface water / ground water.

Clean-up methods:
Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Scrape up as much material as possible.
Store in a partly filled, closed container until disposal.

Section 7. Handling and storage

Handling:
Use only with adequate ventilation.
Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.

Storage:
Storage at -25 to -15°C is recommended.
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.
Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

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:	White liquid
Odor:	Mild
Odor threshold (CA):	No data available.
pH:	Not applicable, Product is non-soluble (in water).
Melting point / freezing point:	No data available.
Specific gravity:	1.66
Boiling point:	No data available.
Flash point:	> 120 °C (> 248 °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:	1.66 g/cm3
Solubility:	No data available.
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	No data available.
Decomposition temperature:	No data available.
Viscosity:	20,000 - 45,000 mPa.s (Brookfield; 25 °C (77 °F); speed of rotation: 5 min-1; Method: ;; LCT STM 740; cone & plate viscosity)
VOC content:	No data available.

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Reaction with strong oxidants.
Reacts with alcohols and amines.
Reaction with strong acids.
Conditions to avoid:
Heat, flames, sparks and other sources of ignition.
Hazardous decomposition products:
carbon oxides.
Hydrocarbons
Irritating organic vapours.

Section 11. Toxicological information

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

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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	LD50
	Value	1,037 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)
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)
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)
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
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	LD0
	Value	> 4,000 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	Acute toxicity estimate (ATE)
	Value	4,001 mg/kg
	Species	
	Method	Expert judgement
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)
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:

Si-oxide amorphous (fumed) 7631-86-9	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	not irritating
	Exposure time	
	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
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)
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-	Result	not corrosive
	Exposure time	

5-methyl-1H-imidazole-1-propiononitrile 568591-00-4	Species	Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)
	Method	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	slightly irritating
	Exposure time	30 s
	Species	rabbit
	Method	EPA OPP 81-4 (Acute Eye Irritation)
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
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)
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)
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
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
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)
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)
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)

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
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	positive
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	positive
	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)
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
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)
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)

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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	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)
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)
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)
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)

Section 12. Ecological information

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

Ecotoxicity: H411 Toxic 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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	LC50
	Value	4.2 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Cyprinus carpio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	EC50
	Value	18 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	EC50
	Value	13 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	4.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)

p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Value type	EC10
	Value	> 10 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	16 h
	Species	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-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:
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:
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	Value type	EC50
	Value	65 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h

568591-00-4	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)
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:

p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	> 0 - 10 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution 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)
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)
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 readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
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)
p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4	LogPow	0.87
	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)
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)
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)
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:

Class:	9
Packing group:	III
Classification code:	M6
Hazard ident. number:	90
UN no.:	3082
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol,Epoxy resin)

Railroad transport RID:

Class:	9
Packing group:	III
Classification code:	M6
Hazard ident. number:	90
UN no.:	3082
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol,Epoxy resin)

Inland water transport ADN:

Class:	9
Packing group:	III
Classification code:	M6
Hazard ident. number:	90
UN no.:	3082
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol,Epoxy resin)

Marine transport IMDG:

Class:	9
Packing group:	III
UN no.:	3082
Label:	9
EmS:	F-A ,S-F
Seawater pollutant:	Marine pollutant
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol,Epoxy resin)

Air transport IATA:

Class:	9
Packing group:	III
Packaging instructions (passenger):	964
Packaging instructions (cargo):	964
UN no.:	3082
Label:	9
Proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (Triglycidyl-p-aminophenol,Epoxy resin)

Further information for transport:

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed 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
ISHL (JP)	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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