Safety Data Sheet according to Singapore Standard SS 586.

LOCTITE ECCOBOND UF 9000AG 30CC

SDS No. : 712420
V001.1
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: LOCTITE ECCOBOND UF 9000AG 30CC

Other means of identification: LOCTITE ECCOBOND UF9000AG
Product code: IDH2811435
Recommended use of the chemical and restrictions on use

Intended use: Epoxy adhesive
Manufacturer/Importer/Distributor Representative Company

Henkel Singapore Pte Ltd
Science Park Drive 1B
Units 09-31 to 09-35
119315 Singapore

Singapore

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E-mail address of person responsible for Safety Data Sheet: ap-ua-psra.sea@henkel.com

Emergency Telephone for Chemical Accidents: FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call: +65 6424 7016

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
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
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. H351 Suspected of causing cancer. H411 Toxic to aquatic life with long lasting effects.

Precaution:

Prevention:	P201 Obtain special instructions before use. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response:	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.
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
Si-oxide amorphous (fumed) 7631-86-9	30- 60 %	
Silica Filler 112926-00-8	10- 30 %	
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	1- 10 %	Skin irritation 2; Dermal H315 Serious eye irritation 2 H319 Skin Sensitization 1 H317 Germ cell mutagenicity 2 H341 Chronic hazards to the aquatic environment 2 H411
4,4'-methylenebis(2-ethylaniline) 19900-65-3	1- 10 %	Acute toxicity 4; Oral H302 Carcinogenicity 2 H351 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	1- 10 %	Skin irritation 2 H315 Skin Sensitization 1A H317 Chronic hazards to the aquatic environment 2 H411
2,2'-(Phenylene)bis[oxirane] 30424-08-9	1- 10 %	Skin irritation 2 H315 Serious eye irritation 2 H319 Skin Sensitization 1A H317 Chronic hazards to the aquatic environment 2 H411
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	1- 10 %	Acute toxicity 4; Oral H302 Skin Sensitization 1 H317 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	1- 10 %	Serious eye damage/eye irritation 1 H318
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	0.1- 1 %	Skin irritation 2 H315 Serious eye irritation 2 H319 Skin Sensitization 1 H317 Chronic hazards to the aquatic environment 2 H411
Butadiene, acrylonitrile polymer, carboxy-terminated, polymer with bisphenol A and epichlorohydrin 68610-41-3	0.1- 1 %	Skin irritation 2 H315 Serious eye irritation 2 H319 Skin Sensitization 1B H317 Chronic hazards to the aquatic environment 2 H411

Section 4. First aid measures

Inhalation: If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel.
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact: Remove contaminated clothing and shoes.
Rinse with running water and soap.
Wash contaminated clothing before reuse.
Discard any shoes or clothing items that cannot be decontaminated.
Seek medical attention immediately.

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

Ingestion: Seek immediate medical attention. Do not induce vomiting.
Never give anything by mouth to an unconscious person.

Section 5. Fire fighting measures

Suitable extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

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.
Phenolics.
Toxic fumes.
Irritating vapors.

Section 6. Accidental release measures

Personal precautions: Ensure adequate ventilation.

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

Clean-up methods: Remove all sources of ignition.
Isolate area. Keep unnecessary personnel away.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Store in a closed container until ready for 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.
Keep container closed.
See advice in section 8

Storage:

Protect from direct sunlight.
Keep container tightly sealed.
Refer to Technical Data Sheet.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

NUISANCE PARTICULATES 7631-86-9	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	SG OEL
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
Silica-Amorphous: Precipitated silica Silica-Amorphous: Silica gel 112926-00-8	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	SG OEL
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 112926-00-8	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 112926-00-8	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
Silica Filler 112926-00-8	**Value type**	Time Weighted Average (TWA):
	mg/m³	6

Respiratory protection: Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

Hand protection: Suitable protective gloves.

Eye protection: Safety goggles or safety glasses with side shields.
Full face protection should be used if the potential for splashing or spraying of product exists.

Body protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

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:	characteristic
Odor threshold (CA):	No data available.
pH:	Not applicable
Melting point / freezing point:	No data available.
Specific gravity:	1.7
Boiling point:	No data available.
Flash point:	162 °C (323.6 °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:	1.7 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:	0 - 9,999 cp (; 20 °C (68 °F); speed of rotation: 0.5 min-1; Method: no method / method unknown)
VOC content:	No data available.

Section 10. Stability and reactivity

Reactivity/Incompatible materials:	Strong oxidizing agents. Strong acids. Hydrogen fluoride.
Chemical stability:	Stable under recommended storage conditions.
Conditions to avoid:	High temperatures. Store away from incompatible materials. Heat, flames, sparks and other sources of ignition. Direct sunlight.
Hazardous decomposition products:	Oxides of carbon. Hydrocarbons. Irritating organic vapours.

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 an allergic skin reaction.
Eyes: Causes serious eye irritation.
Symptoms of Overexposure**:** None known.

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)
Silica Filler 112926-00-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	Value type	LD50
	Value	4,240 mg/kg
	Species	rat
	Method	not specified
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)
2,2'-(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
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Value type	LD50
	Value	1,515 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LD50
	Value	8,025 mg/kg
	Species	rat
	Method	equivalent or similar to 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)
Butadiene, acrylonitrile polymer, carboxy-terminated, polymer with bisphenol A and epichlorohydrin 68610-41-3	Value type	LD50
	Value	> 2,000 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)
Silica Filler 112926-00-8	Value type	LC50
	Value	> 58.8 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LC50
	Value	> 5.3 mg/l
	Exposure time	4 h
	Species	rat
	Method	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Si-oxide amorphous (fumed) 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Silica Filler 112926-00-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
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)
2,2'-(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
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LD50
	Value	4,250 mg/kg
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Butadiene, acrylonitrile polymer, carboxy-terminated, polymer with bisphenol A and epichlorohydrin 68610-41-3	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	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)
Silica Filler 112926-00-8	Result	not 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)
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(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	not irritating
	Exposure time	24 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

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)
Silica Filler 112926-00-8	Result	not irritating
	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)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	Result	irritating
	Exposure time	
	Species	
	Method	expert judgment
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	corrosive
	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

Respiratory or skin sensitization:

Silica Filler 112926-00-8	Result	not sensitising
	Test type	
	Species	human
	Method	not specified
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)
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)
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

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
Silica Filler 112926-00-8	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Silica Filler 112926-00-8	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)
Silica Filler 112926-00-8	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)
Silica Filler 112926-00-8	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
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)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	A mutagenic potential can not be excluded.
	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)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	A mutagenic potential can not be excluded.
	Type of study / Route of administration	
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
4,4'-Isopropylidenediphenol,	Result	negative

oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	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

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)
Silica Filler 112926-00-8	Result	NOAEL=>= 7,950 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	6 mdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Silica Filler 112926-00-8	Result	
	Route of application	inhalation
	Exposure time / Frequency of treatment	13 w6 h/d, 5d/w
	Species	rat
	Method	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
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)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 d5 d / week
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	NOAEL=0.225 mg/l
	Route of application	inhalation: aerosol
	Exposure time / Frequency of treatment	14 d6 h / d, 4/5 exposures/week
	Species	rat
	Method	equivalent or similar to OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-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)

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:

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)
Silica Filler 112926-00-8	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 Filler 112926-00-8	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)
Silica Filler 112926-00-8	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)
Silica Filler 112926-00-8	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)

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:
2,2'-(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)
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Value type	LC50
	Value	7.3 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Value type	EC50
	Value	1.1 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Value type	EC50
	Value	> 3.3 - < 4.8 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	1.9 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	not specified
	Method	not specified
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LC50
	Value	55 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Cyprinus carpio
	Method	EU Method C.1 (Acute Toxicity for Fish)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	EC50
	Value	324 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Simocephalus vetulus
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	EC50
	Value	350 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	130 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	LC50
	Value	1.75 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	EC50
	Value	1.7 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 25068-38-6	Value type	EC50
	Value	> 11 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus capricornutum
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	4.2 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus capricornutum
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, 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:

Persistence and degradability:

Reaction mass bisphenol-F-(epichlorhydrin) 9003-36-5	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
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)
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	2 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	37 %
	Method	EU Method C.4-A (Determination of the "Ready" BiodegradabilityDissolved Organic Carbon (DOC) Die-Away 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)

Bioaccumulative potential / Mobility in soil:

Si-oxide amorphous (fumed) 7631-86-9	LogPow	0.53
	Temperature	25 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
Silica Filler 112926-00-8	LogPow	0.53
	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
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)
2,2'-(Phenylene)bis[oxirane] 30424-08-9	LogPow	1.36 - 2.68
	Temperature	
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	LogPow	2.895
	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	LogPow	0.5
	Temperature	20 °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)

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. (4,4'-methylenebis(2-ethylaniline),6-methyl-2,4-bis(methylthio)phenylene-1,3-diamine)

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. (4,4'-methylenebis(2-ethylaniline),6-methyl-2,4-bis(methylthio)phenylene-1,3-diamine)

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. (4,4'-methylenebis(2-ethylaniline),6-methyl-2,4-bis(methylthio)phenylene-1,3-diamine)

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. (4,4'-methylenebis(2-ethylaniline),6-methyl-2,4-bis(methylthio)phenylene-1,3-diamine)

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. (4,4'-methylenebis(2-ethylaniline),6-methyl-2,4-bis(methylthio)phenylene-1,3-diamine)

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: Workplace Safety And Health Act (Chapter 354A, Section 40B) Workplace Safety And Health (Approved Codes of Practice) Notification 2020.
Workplace Safety And Health Act (Chapter 354A, Section 65) Workplace Safety And Health (General Provisions) (Amendment No.2) Regulations 2024

Global inventory status:

Regulatory list	Notification
TCSI	yes
TSCA	yes

Section 16. Other information

Disclaimer: This Safety Data Sheet has been generated based on Workplace Safety And Health Act (Chapter 354A, Section 40B) Workplace Safety And Health (Approved Codes of Practice) Notification 2020 and Workplace Safety And Health Act (Chapter 354A, Section 65) Workplace Safety And Health (General Provisions) (Amendment No.2) Regulations 2024 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.
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