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

Product name:
LOCTITE ABLESTIK 8390

Other means of identification:
LOCTITE ABLESTIK 8390

Product code:
IDH2907345

Recommended use of the chemical and restrictions on use

Intended use:
Epoxy adhesive

Manufacturer/Importer/Distributor Representative Company

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

Thailand

Phone: +66 (2209) 8000
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	Target organ
Skin corrosion/irritation	Category 2	
Serious eye damage/eye irritation	Category 1	
Skin sensitizer	Category 1	
Germ cell mutagenicity	Category 2	
Toxic to reproduction	Category 1B	
Specific target organ toxicity - repeated exposure	Category 2	Nervous system
Acute hazards to the aquatic environment	Category 1	
Chronic hazards to the aquatic environment	Category 1	

GHS label elements:

Hazard pictogram:



Signal word:
Danger

Hazard statement:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H341 Suspected of causing genetic defects.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very 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.
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
Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	60- 100 %	Toxic to reproduction 2 H361 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	10- 30 %	Acute toxicity 5; Oral H303 Skin corrosion/irritation 2; Dermal H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341 Chronic hazards to the aquatic environment 2 H411
A mixture of: 4-allyl-2,6-bis (2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxy-propyl]-2-(2,3-epoxypropyl)phenol	1- 10 %	Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	1- 10 %	Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Toxic to reproduction 1B H360 Acute hazards to the aquatic environment 3 H402
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	1- 10 %	Acute toxicity 4; Oral H302 Acute toxicity 5; Dermal H313 Skin corrosion/irritation 1 H314 Serious eye damage/eye irritation 1 H318 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412

Section 4. First aid measures

Inhalation:
Should not be a problem as product is of low volatility. However, if feeling unwell remove patient to fresh air.

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.
In case of fire, keep containers cool with water spray.

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

Section 6. Accidental release measures

Personal precautions:
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
Remove sources of ignition.

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.

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:

Silver, metal, dust and fume 7440-22-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	0.1
	Remarks	ACGIH

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

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

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

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

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

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

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

Section 9. Physical and chemical properties

Appearance:	Silver paste
Odor:	Slight
Odor threshold (CA):	No data available.
pH:	Product is non-soluble (in water)., Not applicable
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	3.6
Boiling point:	No data available.
Flash point:	> 93 °C (> 199.4 °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: (; 20 °C (68 °F))	< 0.1 hPa
Vapor density:	Heavier than air
Density:	3.3 g/cm3
Solubility:	Insoluble
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	Not available.
Decomposition temperature:	> 200 °C
Viscosity:	8,800 mPa.s (; Method: no method / method unknown)
VOC content: (2010/75/EC)	< 3 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Reacts with alcohols and amines.
Reacts with oxidants, acids and lyes
Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.
Chemical stability:
Stable under recommended storage conditions.
Possibility of hazardous reactions:
Rapid polymerization may generate excessive heat and pressure.
Conditions to avoid:
No decomposition if stored and applied as directed.
Hazardous decomposition products:
Hydrocarbons
carbon oxides.
nitrogen oxides

Section 11. Toxicological information

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

Health Effects:

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

Acute oral toxicity:

Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Value type	LD50
	Value	> 2,000 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
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	LD50
	Value	1,118 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Value type	LD50
	Value	475 mg/kg
	Species	rat
	Method	not specified

Acute inhalative toxicity:

1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	Acute toxicity estimate (ATE)
	Value	11.01 mg/l
	Exposure time	4 h
	Species	
	Method	Expert judgement

Acute dermal toxicity:

Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	LD50
	Value	1,130 mg/kg
	Species	rabbit
	Method	not specified
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Value type	LD50
	Value	2,085.8 mg/kg
	Species	rabbit
	Method	not specified

Skin corrosion/irritation:

Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	Category 1 (irreversible effects on the eye)
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	Expert judgement

Respiratory or skin sensitization:

1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
A mixture of: 4-allyl-2,6-bis (2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxy-propyl]-2-(2,3-epoxypropyl)phenol	Result	positive with metabolic activation
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	
	Method	not specified
A mixture of: 4-allyl-2,6-bis (2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxy-propyl]-2-(2,3-epoxypropyl)phenol	Result	positive
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	
	Method	not specified
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	positive
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	positive
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	positive
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity:

1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	NOAEL=200 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 ddaily
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Section 12. Ecological information

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

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

Toxicity:

Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Value type	LC50
	Value	0.0012 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	other guideline:
	Value type	EC10
	Value	0.00019 mg/l
	Acute Toxicity Study	Fish
	Exposure time	217 d
	Species	Salmo trutta
	Method	OECD Guideline 210 (fish early lite stage toxicity test)
Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Value type	EC50
	Value	0.00022 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	other guideline:
Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Value type	EC10
	Value	0.00016 mg/l
	Acute Toxicity Study	Algae
	Exposure time	15 d
	Species	other:
	Method	other guideline:
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	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)
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	Value type	EC50
	Value	2.7 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	other guideline:
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	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:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	LC50
	Value	19.8 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	EC10
	Value	1.11 mg/l
	Acute Toxicity Study	Fish
	Exposure time	35 d
	Species	Danio rerio
	Method	OECD Guideline 210 (fish early lite stage toxicity test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	EC50
	Value	75 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	EC50
	Value	> 160 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOELR
	Value	40 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Value type	LC50
	Value	> 15 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Value type	EC50
	Value	15 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Value type	EC50
	Value	15 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	1.4 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)-	Value type	EC50
	Value	750 mg/l
	Acute Toxicity Study	Bacteria

9046-10-0	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

Persistence and degradability:

2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	5 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
A mixture of: 4-allyl-2,6-bis (2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-2-(2,3-epoxypropyl)phenol; 4-allyl-6-[3-[6-[3-(4-allyl-2,6-bis(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl]-4-allyl-2-(2,3-epoxypropyl)phenoxy]-2-hydroxy-propyl]-2-(2,3-epoxypropyl)phenol	Result	
	Route of application	
	Degradability	7 %
	Method	not specified
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	38 %
	Method	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	98 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

Bioaccumulative potential / Mobility in soil:

Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Bioconcentration factor (BCF)	70
	Exposure time	42 d
	Species	Cyprinus carpio
	Temperature	20 °C
	Method	other guideline:
2,2'-[[2-(oxiranylmethoxy)-1,3-phenylene]bis(methylene)]bisoxirane 13561-08-5	LogPow	1.79
	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LogPow	-0.269
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Poly[oxy(methyl-1,2-ethanediyl)], a-(2-aminomethylethyl)-w-(2-aminomethylethoxy)- 9046-10-0	LogPow	1.34
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

Section 13. Disposal considerations

Product

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

Packaging

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

Section 14. Transport information

Road transport ADR:

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. (Silver)
Additional information:	UN 1845, carbon dioxide, solid, as a coolant (does not apply for Germany, Sweden, France, Belgium, UK)

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. (Silver)

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. (Silver)

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. (Silver)

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. (Silver)

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
KECI (KR)	yes
IECSC	yes

Section 16. Other information

Disclaimer:

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

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).