Safety Data Sheet

LOCTITE EA 9394 AERO PART B 8OZ

SDS No. : 234781
V001.14
Revision: 22.04.2026
printing date: 22.04.2026

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

Product name: LOCTITE EA 9394 AERO PART B 8OZ

Other means of identification: EA 9394 PART B 8OZ
Product code: IDH937060
Recommended use of the chemical and restrictions on use

Intended use: 2-Component epoxy adhesive
Manufacturer/Importer/Distributor Representative Company

Henkel Adhesive Tech. Vietnam Co., Ltd,
No. 7, Road 9A Bien Hoa II Industrial Zone,
Bien Hoa City,
810000 Dong Nai Province

Vietnam

Phone: +84 (28) 7100 6301
Fax-no.: +84 (28) 7100 6300

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: +84 28 71006388

Section 2. Hazards identification

GHS Classification:

Hazard Class	Hazard Category	Route of Exposure
Acute toxicity	Category 4	Oral
Skin corrosion/irritation	Category 1B	
Serious eye damage/eye irritation	Category 1	
Skin sensitizer	Category 1	
Chronic hazards to the aquatic environment	Category 2	

GHS label elements:

Hazard pictogram:



Signal word: Danger

Hazard statement:	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects.

Precaution:

Prevention:	P260 Do not breathe dusts or mists. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. 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:	P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P304+P340+P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P363 Wash contaminated clothing 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
3,6,9-triazaundecamethylenediamine 112-57-2	30- 60 %	Acute toxicity 4; Ingestion H302 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1B H314 Skin Sensitization 1 H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	30- 60 %	Acute toxicity 4; Oral H302 Skin corrosion/irritation 1B H314 Skin Sensitization 1 H317 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
amines, polyethylenepoly- 68131-73-7	1- 10 %	Acute toxicity 4; Ingestion H302 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1B H314 Skin Sensitization 1 H317 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
Silica, amorphous, fumed, cryst.-free 112945-52-5	1- 10 %	
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	1- 10 %	Acute toxicity 4; Oral H302 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1B H314 Skin Sensitization 1 H317 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
3,6-diazaoctanethylenediamine 112-24-3	1- 10 %	Acute toxicity 4; Ingestion H302 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1B H314 Skin Sensitization 1 H317 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
Carbon black 1333-86-4	0.1- 1 %	

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.
Indication of immediate medical attention and special treatment needed:	See section: Description of first aid measures

Section 5. Fire fighting measures

Suitable extinguishing media:	water, carbon dioxide, foam, powder
Improper extinguishing media:	High pressure waterjet
Specific hazards arising from the chemical:	In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.
Special protection equipment and precautions for firefighters:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Additional fire fighting advice:	In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions:	Avoid contact with skin and eyes. Wear protective equipment. Ensure adequate ventilation. Keep away from sources of ignition. Avoid dust formation. See advice in section 8
Environmental precautions:	Do not empty into drains / surface water / ground water.
Clean-up methods:	Dispose of contaminated material as waste according to Section 13. Scrape up as much material as possible. Sweep up spilled material. Avoid creating dust. Store in a partly filled, closed container until disposal.

Section 7. Handling and storage

Handling:

Avoid skin and eye contact.
Avoid naked flames, sparking and sources of ignition.

Storage:

Store in sealed original container.Store in a cool, dry place.
Ensure that storage and workrooms are adequately ventilated.
Must be stored in a room with spill collection facilities.
Keep away from heat and direct sunlight.
Refer to Technical Data Sheet.
Storage at 8 to 28°C is recommended.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 112945-52-5	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 112945-52-5	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	ACGIH
CARBON BLACK, INHALABLE FRACTION 1333-86-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
CARBON BLACK 1333-86-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	3.5
	Remarks	VN OEL
CARBON BLACK 1333-86-4	**Value type**	Short-term exposure limit (STEL):
	mg/m³	7
	Remarks	VN OEL

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:	Brown PasteBrown paste
Odor:	AmineAmine
Odor threshold (CA):	No data available.
pH:(Concentration: 2 % product)	11 - 13
Melting point / freezing point:	< -40 °C (< -40 °F)
Specific gravity:	1.0
Boiling point:	150 °C (302 °F)
Flash point:	Not applicable
Evaporation rate:	Not determined
Flammability (solid, gas):	The product is not flammable.
Lower explosive limit:	No data available.
Upper explosive limit:	No data available.
Vapor pressure: (; 20 °C (68 °F))	< 0.1 hPa
Vapor density:	Not applicable, Product is a solid
Density:	1.0 g/cm3
Solubility:	Soluble (20 °C)
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	Not determined
Decomposition temperature:	> 200 °C
Viscosity:	20,000 - 70,000 mPa.s (Brookfield; Instrument: HBT; 25 °C (77 °F); Spindle No: 4; Method: ; LCT STM 8020 Brookfield Viscosity for Aerospace Products)
VOC content: (2010/75/EC)	< 3 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:	Reaction with strong oxidants. Reacts with acids. Will cause some corrosion to copper alloys and aluminum. 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:	May occur.
Conditions to avoid:	Stable under normal conditions of storage and use.
Hazardous decomposition products:	carbon oxides. Rapid polymerisation may generate excessive heat and pressure. May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

Section 11. Toxicological information

Oral toxicity:	Acute toxicity estimate (ATE) : 1,942 mg/kg Method: Calculation method
Dermal toxicity:	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method

Symptoms of Overexposure**:** SKIN: Rash, Urticaria.
INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

Causes burns.

Acute oral toxicity:

3,6,9-triazaundecamethylenediamine 112-57-2	Value type	LD50
	Value	1,716 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Value type	LD50
	Value	1,980 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
amines, polyethylenepoly- 68131-73-7	Value type	LD50
	Value	1,716.2 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Value type	LD50
	Value	1,716.2 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
3,6-diazaoctanethylenediamine 112-24-3	Value type	LD50
	Value	1,591 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Carbon black 1333-86-4	Value type	LD50
	Value	> 8,000 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Silica, amorphous, fumed, cryst.-free 112945-52-5	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:

3,6,9-triazaundecamethylenediamine 112-57-2	Value type	LD50
	Value	1,260 mg/kg
	Species	rabbit
	Method	not specified
amines, polyethylenepoly- 68131-73-7	Value type	LD50
	Value	1,465.4 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Value type	LD50
	Value	1,465.4 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
3,6-diazaoctanethylenediamine 112-24-3	Value type	LD50
	Value	1,465 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Carbon black 1333-86-4	Value type	LD50
	Value	> 15,400 mg/kg
	Species	rabbit
	Method	not specified

Skin corrosion/irritation:

3,6,9-triazaundecamethylenediamine 112-57-2	Result	corrosive
	Exposure time	4 h
	Species	rabbit
	Method	Draize Test
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Result	Category 1B (corrosive)
	Exposure time	
	Species	rabbit
	Method	BASF Test
amines, polyethylenepoly- 68131-73-7	Result	Category 1B (corrosive)
	Exposure time	
	Species	
	Method	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
3,6-diazaoctanethylenediamine 112-24-3	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Carbon black 1333-86-4	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

amines, polyethylenepoly- 68131-73-7	Result	Category 1 (irreversible effects on the eye)
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Carbon black 1333-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

3,6,9- triazaundecamethylenediamine 112-57-2	Result	sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Result	sensitising
	Test type	Skin sensitisation
	Species	
	Method	QSAR (Quantitative Structure Activity Relationship)
amines, polyethylenepoly- 68131-73-7	Result	sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
Silica, amorphous, fumed, cryst.- free 112945-52-5	Result	not sensitising
	Test type	
	Species	human
	Method	not specified
3,6-diazaoctanethylenediamine 112-24-3	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
Carbon black 1333-86-4	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

3,6,9-triazaundecamethylenediamine 112-57-2	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)
3,6,9-triazaundecamethylenediamine 112-57-2	Result	ambiguous
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
3,6,9-triazaundecamethylenediamine 112-57-2	Result	negative
	Type of study / Route of administration	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
3,6,9-triazaundecamethylenediamine 112-57-2	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	JAPAN: Guidelines for Screening Mutagenicity Testing Of Chemicals
amines, polyethylenepoly- 68131-73-7	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)
amines, polyethylenepoly- 68131-73-7	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	
	Method	not specified
Silica, amorphous, fumed, cryst.-free 112945-52-5	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	
	Method	not specified
Silica, amorphous, fumed, cryst.-free 112945-52-5	Result	negative
	Type of study / Route of administration	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro
	Metabolic activation / Exposure time	
	Method	not specified
3,6-diazaoctanethylenediamine 112-24-3	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)
3,6-diazaoctanethylenediamine 112-24-3	Result	negative
	Type of study / Route of administration	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
3,6-diazaoctanethylenediamine 112-24-3	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carbon black 1333-86-4	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)
Carbon black 1333-86-4	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)
Carbon black 1333-86-4	Result	negative
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Carbon black 1333-86-4	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)
Carbon black 1333-86-4	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 490 (In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene)
Carbon black 1333-86-4	Result	negative
	Type of study / Route of administration	inhalation
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 489 (In Vivo Mammalian Alkaline Comet Assay)

Repeated dose toxicity:

3,6,9-triazaundecamethylenediamine 112-57-2	Result	LOAEL=50 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	26 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,6,9-triazaundecamethylenediamine 112-57-2	Result	NOAEL=50 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	26 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
amines, polyethylenepoly- 68131-73-7	Result	NOAEL=350 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	4 and 8 weeksdaily
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
3,6-diazaoctanethylenediamine 112-24-3	Result	LOAEL=50 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	26 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,6-diazaoctanethylenediamine 112-24-3	Result	NOAEL=50 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	26 wdaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Carbon black 1333-86-4	Result	NOAEL=> 1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Carbon black 1333-86-4	Result	NOAEL=1 mg/m3
	Route of application	inhalation
	Exposure time / Frequency of treatment	13 w6 h/d, 5 d/w
	Species	rat
	Method	not specified

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:

3,6,9-triazaundecamethylenediamine 112-57-2	Value type	LC50
	Value	420 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Poecilia reticulata
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
3,6,9-triazaundecamethylenediamine 112-57-2	Value type	EC50
	Value	24.1 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h

	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,6,9-triazaundecamethylenediamine 112-57-2	Value type	NOEC
	Value	0.5 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC50
	Value	6.8 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,6,9-triazaundecamethylenediamine 112-57-2	Value type	EC50
	Value	1,600 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	1 h
	Species	
	Method	EU Method C.11 (Biodegradation: Activated Sludge Respiration Inhibition Test)
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Value type	EC50
	Value	47.9 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Value type	EC50
	Value	32.3 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	6.97 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
amines, polyethylenepoly- 68131-73-7	Value type	LC50
	Value	100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Poecilia reticulata
	Method	EU Method C.1 (Acute Toxicity for Fish)
amines, polyethylenepoly- 68131-73-7	Value type	EC50
	Value	2.2 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	EU Method C.2 (Acute Toxicity for Daphnia)
amines, polyethylenepoly- 68131-73-7	Value type	EC50
	Value	0.5 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	0.16 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	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, amorphous, fumed, cryst.-free 112945-52-5	Value type	EL50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Value type	EC50
	Value	> 173 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	Value type	EC50
	Value	> 2,500 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)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Value type	LC50
	Value	180 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Poecilia reticulata
	Method	EU Method C.1 (Acute Toxicity for Fish)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Value type	EC50
	Value	17.5 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	EU Method C.2 (Acute Toxicity for Daphnia)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Value type	EC50
	Value	1.7 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	NOEC
	Value	0.25 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)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Value type	EC50
	Value	164 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	2 h
	Species	other:
	Method	other guideline:
3,6-diazaoctanethylenediamine 112-24-3	Value type	LC50
	Value	570 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Poecilia reticulata
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
3,6-diazaoctanethylenediamine 112-24-3	Value type	EC50
	Value	31 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,6-diazaoctanethylenediamine 112-24-3	Value type	EC50
	Value	20 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,6-diazaoctanethylenediamine 112-24-3	Value type	EC0
	Value	137 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min

	Species	Pseudomonas putida
	Method	DIN 38412, part 27 (Bacterial oxygen consumption test)
Carbon black 1333-86-4	Value type	LC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Carbon black 1333-86-4	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Carbon black 1333-86-4	Value type	NOEC
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Carbon black 1333-86-4	Value type	EC0
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, domestic
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

Persistence and degradability:

3,6,9-triazaundecamethylenediamine 112-57-2	Result	under test conditions no biodegradation observed
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
amines, polyethylenepoly- 68131-73-7	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
	Result	not inherently biodegradable
	Route of application	aerobic
	Degradability	16 %
	Method	OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
	Result	not inherently biodegradable
	Route of application	aerobic
	Degradability	18 %
	Method	OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test)
3,6-diazaoctanethylenediamine 112-24-3	Result	not inherently biodegradable
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

Bioaccumulative potential / Mobility in soil:

3,6,9-triazaundecamethylenediamine 112-57-2	LogPow	-3.16
	Temperature	
	Method	not specified
N,N'-Bis(3-aminopropyl)piperazine 7209-38-3	LogPow	-1.43
	Temperature	25 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
amines, polyethylenepoly- 68131-73-7	LogPow	-3.67
	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)
3,6,9,12-tetraazatetradecamethylenediamine 4067-16-7	LogPow	< 1
	Temperature	
	Method	not specified
3,6-diazaoctanethylenediamine 112-24-3	LogPow	-2.65
	Temperature	
	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:	8
Packing group:	III
Classification code:	C8
Hazard ident. number:	80
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S. (Tetraethylene pentamine,Substituted piperazine)

Railroad transport RID:

Class:	8
Packing group:	III
Classification code:	C8
Hazard ident. number:	80
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S. (Tetraethylene pentamine,Substituted piperazine)

Inland water transport ADN:

Class:	8
Packing group:	III
Classification code:	C8
Hazard ident. number:	80
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S. (Tetraethylene pentamine,Substituted piperazine)

Marine transport IMDG:

Class:	8
Packing group:	III
UN no.:	3259
Label:	8
EmS:	F-A ,S-B
Seawater pollutant:	Marine pollutant
Proper shipping name:	AMINES, SOLID, CORROSIVE, N.O.S. (Tetraethylene pentamine,Substituted piperazine)

Air transport IATA:

Class:	8
Packing group:	III
Packaging instructions (passenger):	860
Packaging instructions (cargo):	864
UN no.:	3259
Label:	8
Proper shipping name:	Amines, solid, corrosive, n.o.s. (Tetraethylene pentamine,Substituted piperazine)

Section 15. Regulatory information

Regulatory Information: This Safety Data Sheet has been generated based on

LAW ON CHEMICALS No. 69/2025/QH15, issued on June 14, 2025;

Decree No. 24/2026/NĐ-CP, issued on January 17, 2026, ON THE LISTS OF CHEMICALS GOVERNED BY THE LAW ON CHEMICALS;

Decree No. 25/2026/NĐ-CP, issued on January 17, 2026, DETAILED REGULATIONS AND MEASURES FOR ORGANIZING AND GUIDING THE IMPLEMENTATION OF CERTAIN ARTICLES OF THE LAW ON CHEMICALS CONCERNING THE DEVELOPMENT OF THE CHEMICAL INDUSTRY AND CHEMICAL SAFETY AND SECURITY;

Decree No. 26/2026/NĐ-CP, issued on January 17, 2026, DETAILED REGULATIONS AND GUIDELINES FOR IMPLEMENTING CERTAIN ARTICLES OF THE LAW ON CHEMICALS REGARDING THE MANAGEMENT OF CHEMICAL ACTIVITIES AND HAZARDOUS CHEMICALS IN PRODUCTS AND GOODS;

Circular No. 01/2026/TT-BCT, issued on January 17, 2026, DETAILED REGULATIONS AND GUIDELINES FOR IMPLEMENTING CERTAIN ARTICLES OF THE LAW ON CHEMICALS AND GOVERNMENT DECREE NO. 26/2026/ND-CP DETAILING AND GUIDING THE IMPLEMENTATION OF CERTAIN ARTICLES OF THE LAW ON CHEMICALS REGARDING THE MANAGEMENT OF CHEMICAL ACTIVITIES AND HAZARDOUS CHEMICALS IN PRODUCTS AND GOODS;

Circular No. 02/2026/TT-BCT, issued on January 17, 2026, REGULATIONS ON SOME IMPLEMENTATION MEASURES OF THE LAW ON CHEMICALS AND GOVERNMENT DECREE NO. 25/2026/ND-CP DETAILING AND PROVIDING MEASURES FOR ORGANIZING AND GUIDING THE IMPLEMENTATION OF SOME ARTICLES OF THE LAW ON CHEMICALS CONCERNING THE DEVELOPMENT OF THE CHEMICAL INDUSTRY

AND CHEMICAL SAFETY AND SECURITY;

Decree No. 161/2024/ND-CP, issued on December 18, 2024, ON LIST OF DANGEROUS GOODS, TRANSPORT OF DANGEROUS GOODS AND PROCEDURES FOR ISSUANCE OF LICENSES OR CERTIFICATES OF COMPLETION OF TRAINING PROGRAMS FOR DRIVERS OR ESCORTS TRANSPORTING DANGEROUS GOODS BY ROAD;

Decree No. 34/2024/NĐ-CP, issued on March 31, 2024, ON LIST OF DANGEROUS GOODS, TRANSPORT OF DANGEROUS GOODS BY INLAND WATERCRAFT;

Decree No. 33/2024/NĐ-CP, issued on March 27, 2024, IMPLEMENTING THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING AND USE OF CHEMICAL WEAPONS AND ON THEIR;

Decree No. 37/2026/NĐ-CP, issued on January 23, 2026, ELABORATING CERTAIN ARTICLES AND MEASURES FOR ORGANIZING AND GUIDING THE IMPLEMENTATION OF THE LAW ON PRODUCT AND GOODS QUALITY.

If other regulatory information applies that is not already provided or updated elsewhere in this Safety Data Sheet, then it is described in this subsection.

Global inventory status:

Regulatory list	Notification
TCSI	yes
TSCA	yes
DSL	yes
ENCS (JP)	yes
ISHL (JP)	yes
KECI (KR)	yes
PICCS (PH)	yes
NZIOC	yes
IECSC	yes

Section 16. Other information

Disclaimer:

This Safety Data Sheet has been generated based on Law On Chemicals No. 69/2025/QH15; Decree No. 24/2026/NĐ-CP; Decree No. 25/2026/NĐ-CP; Decree No. 26/2026/NĐ-CP; Circular No. 01/2026/TT-BCT; Circular No. 02/2026/TT-BCT; Decree No. 161/2024/ND-CP; Decree No. 34/2024/NĐ-CP; Decree No. 33/2024/NĐ-CP, and Decree No. 37/2026/NĐ-CP.
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).