Safety Data Sheet

LOCTITE EA 3801 PTB

SDS No. : 176824
V001.1
Revision: 14.04.2023
printing date: 10.07.2023

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: LOCTITE EA 3801 PTB

Intended use: Epoxy Hardener

Supplier:

Henkel New Zealand Ltd
2 Allens Rd
Auckland, 2013
New Zealand
Phone: +64 (9) 272-6710

Emergency Telephone for Chemical Accidents: 24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).
Classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

GHS Classification:

Hazard Class	Hazard Category
Skin corrosion	Sub-category 1B
Serious eye damage/eye irritation	Category 1
Skin sensitizer	Category 1
Toxic to reproduction	Category 1B
Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

Hazard pictogram:

Signal word: Danger

Hazard statement(s):
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H360 May damage fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist/vapours.
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:
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+P315 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Get immediate medical advice/attention.
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.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

General chemical description:
Mixture
organic amine
resins

Type of preparation:
Accelerator for epoxy systems

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop	72244-98-5	70- < 90 %
2-piperazin-1-ylethylamine	140-31-8	10- < 20 %
3,6-diazaoctanethylenediamine	112-24-3	5- < 10 %
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	3- < 10 %
Silica, amorphous, fumed, cryst.-free	112945-52-5	1- < 10 %
2-(2-aminoethylamino)ethanol	111-41-1	1- < 3 %
2,2'-iminodiethylamine	111-40-0	1- < 3 %
2-Piperazin-1-ylethanol	103-76-4	1- < 3 %

SECTION 4 FIRST AID MEASURES

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel.
Keep individual calm.
Get immediate medical attention.

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

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes.
Get medical attention.

Inhalation: Move to fresh air.
If breathing is difficult, give oxygen.
If not breathing, give artificial respiration.
Get medical attention.

First Aid facilities: Eye wash

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Foam, extinguishing powder, carbon dioxide.
Water spray jet

Improper extinguishing media: High pressure waterjet

Particular danger in case of fire: Danger of decomposition if exposed to heat.

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

Additional fire fighting advice: Cool endangered containers with water spray jet.
Collect contaminated fire fighting water separately. It must not enter drains.

Hazchem code: 2X

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
See advice in section 8

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

Clean-up methods: Remove mechanically.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Dispose of contaminated material as waste according to Section 13.
Ensure adequate ventilation.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Ensure good ventilation/suction at the workplace.
Wear suitable protective clothing, gloves and eye/face protection.
See advice in section 8

Conditions for safe storage: Store only in the original container.
Store in a cool, dry place.
Ensure that storage and workrooms are adequately ventilated.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Ceiling	STEL (ppm)	STEL (mg/m3)
Particulates not otherwise classified, respirable dust Respirable dust (not otherwise classified) 112945-52-5	Respirable dust.		3	-	-	-
Particulates not otherwise classified, inhalable dust Inhalable dust (not otherwise classified)	Inhalable dust.		10	-	-	-
DIETHYLENE TRIAMINE 111-40-0		1	4.2	-	-	-

Biological Exposure Indices:
None

Engineering controls: Ensure good ventilation/suction at the workplace.

Eye protection: Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection: Wear protective equipment.
The use of chemical resistant gloves such as Nitrile is recommended.
Suitable protective clothing
Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

Respiratory protection: If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: opaque
liquid
Odor: amine-like
pH: > 7
Specific gravity: 1.04
Boiling point: > 149 °C (> 300.2 °F)
Flash point: > 93 °C (> 199.4 °F)
(Tagliabue closed cup)
Density: 1.04 g/cm3

VOC content: (2010/75/EC)	< 3 %

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	Excessive heat. Danger of decomposition if exposed to heat. Avoid mixing resin (Part A) and curing agent (Part B) unless you plan to use immediately. Do not heat mixed adhesive unless you plan to use immediately. Failure to observe these precautions may result in excessive heat build-up causing an exotherm.
Incompatible materials:	Reaction with strong oxidants. Reaction with strong acids. Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.
Hazardous decomposition products:	Hydrocarbons At higher temperature carbon oxides and nitrogen oxides may be generated. At higher temperature ammonia or amine derivatives may be generated. May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:

Ingestion: This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Skin: Can cause chemical burns.
May cause sensitization by skin contact.

Eyes: Causes serious eye damage.

Inhalation: Can cause severe irritation and burns to the respiratory tract.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether 72244-98-5	LD50 LD50	2,600 mg/kg > 10,200 mg/kg	oral dermal		rat rabbit	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
2-piperazin-1-ylethylamine 140-31-8	Acute toxicity estimate (ATE) LD50	> 10 mg/l 866 mg/kg	inhalation dermal	4 h	rabbit	Expert judgement Draize Test
3,6-diazaoctanethylenediamine 112-24-3	LD50 LD50	1,591 mg/kg 1,465 mg/kg	oral dermal		rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	LD50	1,200 mg/kg	oral		rat	not specified
Silica, amorphous, fumed, cryst.-free 112945-52-5	LD50 LC0 LD50	> 5,000 mg/kg 0.139 mg/l > 2,000 mg/kg	oral inhalation dermal	4 h	rat rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) not specified OECD Guideline 402 (Acute Dermal Toxicity)
2-(2-aminoethylamino)ethanol 111-41-1	LD50 LD50	2,150 mg/kg > 2,000 mg/kg	oral dermal		rat rabbit	BASF Test BASF Test
2,2'-iminodiethylamine 111-40-0	LD50 LD 50 Acute toxicity estimate (ATE) LD50	1,553 mg/kg > 0.07 - < 0.30 mg/l 0.071 mg/l 1,045 mg/kg	oral inhalation inhalation dermal	4 h	rat rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) Expert judgement not specified
2-Piperazin-1-ylethanol 103-76-4	LD50 LD50	4,244 mg/kg > 5,000 mg/kg	oral dermal		rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) not specified

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether 72244-98-5	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-piperazin-1-ylethylamine 140-31-8	corrosive	20 min	rabbit	not specified
3,6-diazaoctanethylenediamine 112-24-3	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	Sub-Category 1C (corrosive)		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
Silica, amorphous, fumed, cryst.-free 112945-52-5	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-(2-aminoethylamino)ethanol 111-41-1	corrosive		rabbit	BASF Test
2,2'-iminodiethylamine 111-40-0	corrosive	15 min	rabbit	BASF Test

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether 72244-98-5	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Silica, amorphous, fumed, cryst.-free 112945-52-5	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-(2-aminoethylamino)ethanol 111-41-1	irritating		rabbit	BASF Test
2,2'-iminodiethylamine 111-40-0	corrosive	30 s	rabbit	not specified

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether 72244-98-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2-piperazin-1-ylethylamine 140-31-8	sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
3,6-diazaoctanethylenediamine 112-24-3	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2-(2-aminoethylamino)ethanol 111-41-1	sensitising	Patch-Test	guinea pig	Patch Test
2,2'-iminodiethylamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2-piperazin-1-ylethylamine 140-31-8	negative negative negative	bacterial reverse mutation assay (e.g Ames test) DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro mammalian cell gene mutation assay	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) not specified not specified
2-piperazin-1-ylethylamine 140-31-8	negative	intraperitoneal		mouse	not specified
3,6-diazaoctanethylenediamine 112-24-3	positive negative	bacterial reverse mutation assay (e.g Ames test) DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
3,6-diazaoctanethylenediamine 112-24-3	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro			not specified not specified not specified
2-(2-aminoethylamino)ethanol 111-41-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2'-iminodiethylamine 111-40-0	positive negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) Chromosome Aberration Test
2,2'-iminodiethylamine 111-40-0	negative negative	oral: gavage oral: gavage		mouse mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) not specified

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
2-piperazin-1-ylethylamine 140-31-8	NOAEL=2000 ppm	oral: drinking water	>= 28 ddaily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
3,6-diazaoctanethylenediamine 112-24-3	LOAEL=50 mg/kg	oral: gavage	26 wdaily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,6-diazaoctanethylenediamine 112-24-3	NOAEL=50 mg/kg	oral: gavage	26 wdaily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
2-(2-aminoethylamino)ethanol 111-41-1	LOAEL=>= 250 mg/kg	oral: gavage	28 daysdaily	rat	Guidelines for 28-Day Repeat Dose Toxicity Test (Japan)
2-(2-aminoethylamino)ethanol 111-41-1	NOAEL=1,000 mg/kg		4 weeks6 hours/day, 5 days/week	rat	EPA Guideline
2,2'-iminodiethylamine 111-40-0	NOAEL=70 - 80 mg/kg	oral: feed	90 ddaily	rat	not specified
2,2'-iminodiethylamine 111-40-0	NOAEL=0.55 mg/l	inhalation: vapour	15 d6 h/d	rat	not specified

SECTION 12. ECOLOGICAL INFORMATION

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

Ecotoxicity: H412 Harmful to aquatic life with long lasting effects.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	LC50	87 mg/l	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	EC50	12 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	EC50	> 733 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	NOEC	338 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	EC50	> 1,000 mg/l	Bacteria	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	LC50	> 100 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-piperazin-1-ylethylamine 140-31-8	EC50	32 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-piperazin-1-ylethylamine 140-31-8	NOEC	31 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	EC50	495 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	EC10	100 mg/l	Bacteria	17 h		not specified
3,6-diazaoctanethylenediamine 112-24-3	LC50	570 mg/l	Fish	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
3,6-diazaoctanethylenediamine 112-24-3	EC50	31 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,6-diazaoctanethylenediamine 112-24-3	EC10	< 2.5 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,6-diazaoctanethylenediamine 112-24-3	EC50	20 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

3,6-diazaoctanethylenediamine 112-24-3	EC0	137 mg/l	Bacteria	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	LC50	153 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	ISO 7346-1 (Determination of the Acute Lethal Toxicity of Substances to a Freshwater Fish [Brachydanio rerio Hamilton-Buchanan (Teleostei, Cyprinidae)]
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	EC50	> 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	EC50	46.7 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	NOEC	6.44 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	EC0	27 mg/l	Bacteria	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	LC50	> 10,000 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-(2-aminoethylamino)ethanol 111-41-1	LC50	> 243 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
2-(2-aminoethylamino)ethanol 111-41-1	EC50	22 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-(2-aminoethylamino)ethanol 111-41-1	EC50	358 mg/l	Algae	72 h	Desmodesmus subspicatus	DIN 38412-09
2-(2-aminoethylamino)ethanol 111-41-1	EC10	156 mg/l	Algae	72 h	Desmodesmus subspicatus	DIN 38412-09
2-(2-aminoethylamino)ethanol 111-41-1	EC10	82.2 mg/l	Bacteria	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
2,2'-iminodiethylamine 111-40-0	LC50	430 mg/l	Fish	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
2,2'-iminodiethylamine 111-40-0	NOEC	> 10 mg/l	Fish	28 d	Gasterosteus aculeatus	OECD Guideline 210 (fish early lite stage toxicity test)
2,2'-iminodiethylamine 111-40-0	EC50	64.6 mg/l	Daphnia	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
2,2'-iminodiethylamine 111-40-0	EC50	1,164 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-iminodiethylamine 111-40-0	NOEC	10 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-iminodiethylamine 111-40-0	NOEC	6 mg/l	Bacteria	3 h	anaerobic bacteria	not specified
2-Piperazin-1-ylethanol 103-76-4	EC50	384 mg/l	Daphnia	48 h	Daphnia magna	not specified

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method

Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	not readily biodegradable.	aerobic	5 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-piperazin-1-ylethylamine 140-31-8	under test conditions no biodegradation observed	aerobic	0 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
3,6-diazaoctanethylenediamine 112-24-3	not inherently biodegradable	aerobic	0 %	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
3,6-diazaoctanethylenediamine 112-24-3	not readily biodegradable.	aerobic	0 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	not readily biodegradable.	aerobic	4 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2-(2-aminoethylamino)ethanol 111-41-1	readily biodegradable	aerobic	> 60 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2,2'-iminodiethylamine 111-40-0	inherently biodegradable	aerobic	83 %	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
2,2'-iminodiethylamine 111-40-0	readily biodegradable	aerobic	87 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	1.2				20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2-piperazin-1-ylethylamine 140-31-8	-1.48					OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
3,6-diazaoctanethylenediamine 112-24-3	-2.65					OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	-0.66				21.5 °C	EPA OPPTS 830.7550 (Partition Coefficient, n-octanol / H2O, Shake Flask Method)
2-(2-aminoethylamino)ethanol 111-41-1		2.1 - 3.7	42 d	Cyprinus carpio	25 °C	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
2-(2-aminoethylamino)ethanol 111-41-1	-1.46				25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2,2'-iminodiethylamine 111-40-0		> 0.3 - < 6.3	42 d	Cyprinus carpio		OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
2,2'-iminodiethylamine 111-40-0	-1.58				20 °C	QSAR (Quantitative Structure Activity Relationship)
2-Piperazin-1-ylethanol 103-76-4	-1.56				25 °C	not specified

SECTION 13. DISPOSAL CONSIDERATIONS

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

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

SECTION 14. TRANSPORT INFORMATION

Dangerous Goods information:

Land Transport:
Classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

Land Transport:

UN no.:	3267
Proper shipping name:	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Triethylenetetramine,Aminoethylpiperazine)
Class or division:	8
Packing group:	II
Hazchem code:	2X

Marine transport IMDG:

UN no.:	3267
Proper shipping name:	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Triethylenetetramine,Aminoethylpiperazine)
Class or division:	8
Packing group:	II
EmS:	F-A ,S-B
Seawater pollutant:	-

Air transport IATA:

UN no.:	3267
Proper shipping name:	Corrosive liquid, basic, organic, n.o.s. (Triethylenetetramine,Aminoethylpiperazine)
Class or division:	8
Packing group:	II
Packing instructions (passenger)	851
Packing instructions (cargo)	855

SECTION 15. REGULATORY INFORMATION

New Zealand regulatory information:
Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

HSNO Approval Number: HSR002658

Site and Storage: Refer to the site and storage requirements for this Group Standard.

NZIoC: Compliant for NZIOC

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms:
STEL - Short term exposure limit
TWA - Time weighted average
HSNO - Hazardous Substances and New Organisms

Reason for issue: Reviewed SDS. Reissued with new date. involved chapters: 1-16

Date of previous issue: 29.09.2014

Disclaimer:

The percentage weight (% w/w) of ingredients is not to be taken as a specification guaranteed by Henkel New Zealand Limited, but only as an approximate guide to the content of hazardous ingredients in the material. The information contained herein does not constitute a guarantee by Henkel New Zealand Limited concerning the properties of the material.
The information contained in this Safety Data Sheet is offered in good faith and has been developed from what is believed to be accurate and reliable sources. The information is offered without warranty, representation, inducement or licence and Henkel New Zealand Limited assumes no legal responsibility for reliance upon same. Henkel New Zealand Limited disclaims any liability for loss, injury or damage incurred in connection with the use of the material or its associated Safety Data Sheet.
This information is not to be construed as a representation that the material is suitable for any particular purpose or use except those conditions and warranties implied by Government statutes. Customers are encouraged to make their own enquiries as to the material's characteristics and, where appropriate, to conduct their own tests in the specific context of the material's intended use.
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.