

Safety Data Sheet

ULTRABOND G-21 / B

Safety Data Sheet dated: 11/26/2025 - version 13

Date of first edition: 05/13/2015



1. IDENTIFICATION

Product identifier used on the label

Mixture identification:

Trade name: ULTRABOND G-21 / B

Trade code: 9024848

Recommended use of the chemical and restrictions on use

Recommended use: Hardener for epoxy products

Restrictions on use: Not available

Name, U.S. address, and U.S. telephone number of the chemical manufacturer, importer, or other responsible party

Company: MAPEI CORP. (USA and Puerto Rico)

1144 East Newport Center Drive - 33442 - Deerfield Beach - FL - USA

Phone: 954-246-8888

Responsible: RDProductSafety@mapei.com

Emergency 24 hour numbers:

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887

Emergency Transport CANUTEC (Canada) 1-613-996-6666

2. HAZARD(S) IDENTIFICATION



Classification of the chemical

Acute toxicity (oral), Category 4

Serious eye damage, Category 1

Skin Sensitization, Category 1

Specific target organ toxicity following repeated exposure, Category 1

Acute aquatic hazard, category 1

Chronic (long term) aquatic hazard, category 1

Reproductive toxicity, Category 2

Skin corrosion, Category 1C

Harmful if swallowed.

Causes serious eye damage.

May cause an allergic skin reaction.

Causes damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Suspected of damaging fertility. Suspected of damaging the unborn child.

Causes severe skin burns and eye damage.

Label elements

Hazard pictograms and Signal Word



Danger

Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.

- P202

Do not handle until all safety precautions have been read and understood.
- P260

Do not breathe mist/vapours/spray.
- P264

Wash skin thoroughly after handling.
- P270

Do not eat, drink or smoke when using this product.
- P273

Avoid release to the environment.
- P280

Wear protective gloves/clothing and eye/face protection.
- P301+P312

IF SWALLOWED: Call a doctor if you feel unwell.
- P301+P330+P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P302+P352

IF ON SKIN: Wash with plenty of water.
- P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- 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.
- P310

Immediately call a doctor.
- 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.
- P501

Dispose of contents/container in accordance with applicable regulations.

Hazards associated with foreseeable chemical reactions

None

Ingredient(s) with unknown acute toxicity:

None

Hazards not otherwise classified identified during the classification process:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Not Relevant

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

List of components

Qty	Name	Ident. Numb.	Classification
≥60 - <70 %	4-nonylphenol, branched; Isononylphenol	CAS:84852-15-3 EC:284-325-5 EU CLP Index:601-053-00-8	Repr. 2, H361fd; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302
≥15 - <20 %	aminoethylpiperazine; 2-piperazin-1-ylethylamine	CAS:140-31-8 EC:205-411-0 EU CLP Index:612-105-00-4	Acute Tox. 3, H311; Repr. 2, H361; STOT RE 1, H372; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412
≥10 - <15 %	fatty acids, c18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine; Reaction product of Fatty acids, C18-unsatd., dimers and trimers with amines, polyethylenepoly-, triethylenetetramine fraction	CAS:68082-29-1 EC:500-191-5	Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Dam. 1, H318; Aquatic Chronic 2, H411
≥3 - <5 %	2,4,6-tri(dimethylaminomethyl)phenol; Mesitol, alpha2,alpha4,alpha6-tris(dimethylamino)-	CAS:90-72-2 EC:202-013-9 EU CLP Index:603-069-00-0	Skin Corr. 1C, H314; Eye Dam. 1, H318; Acute Tox. 4, H302
≥0.6 - <1 %	triethylenetetramine	CAS:112-24-3 EC:203-950-6 EU CLP Index:612-059-00-5	Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412; Acute Tox. 4, H312

≥0.2 - <0.25 % diethylene triamine; 2,2'-iminodi(ethylamine)

CAS:111-40-0
EC:203-865-4
EU CLP Index:612-058-00-X

Acute Tox. 2, H330; Acute Tox. 4, H302;
Acute Tox. 4, H312; Skin Corr. 1B, H314;
STOT SE 3, H335; Skin Sens. 1, H317

The actual concentration of the components listed above is withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
Obtain medical attention if skin related symptoms persist.
Remove contaminated clothing immediately and dispose of safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Give nothing to eat or drink.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.
In case of inhalation, consult a doctor immediately and show him packing or label.

Most important symptoms/effects, acute and delayed

Eye irritation
Eye damages
Skin Irritation
Erythema

Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.
Carbon dioxide (CO₂).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
Hazardous combustion products: Not available
Explosive properties: Not Relevant
Oxidizing properties: Not Relevant

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Use appropriate respiratory protection.
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Limit leakages with earth or sand.

Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand
Retain contaminated washing water and dispose it.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Exercise the greatest care when handling or opening the container.
Use localized ventilation system.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

Storage temperature: Not available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
diethylene triamine; 2,2'-iminodi(ethylamine) CAS: 111-40-0	ACGIH		Long Term: 1 ppm Skin - URT and eye irr
	ACGIH		Long Term: 1 ppm Skin - potential significant contribution to overall exposure by the cutaneous route;eye and upper respiratory tract irritation
	MAK	AUSTRIA	Long Term: 4 mg/m3 - 1 ppm
	MAK	SWITZERLAND	Long Term: 4 mg/m3 - 1 ppm

Predicted No Effect Concentration (PNEC) values

4-nonylphenol, branched; Exposure Route: Fresh Water; PNEC Limit: 0.000614 mg/l
Isononylphenol
CAS: 84852-15-3

Exposure Route: Marine water; PNEC Limit: 0.000527 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 4.62 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 1.23 mg/kg

aminoethylpiperazine; 2-piperazin-1-ylethylamine
CAS: 140-31-8

Exposure Route: Fresh Water; PNEC Limit: 0.058 mg/l

Exposure Route: Marine water; PNEC Limit: 0.0058 mg/l

Exposure Route: Intermittent release; PNEC Limit: 0.58 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 215 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 21.5 mg/kg

Exposure Route: Soil; PNEC Limit: 42.9 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 250 mg/l

Exposure Route: Fresh Water; PNEC Limit: 0.00434 mg/l

fatty acids, c18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine; Reaction product of Fatty acids, C18-unsatd., dimers and trimers with

amines,
polyethylenepoly-,
triethylenetetramine
fraction
CAS: 68082-29-1

Exposure Route: Marine water; PNEC Limit: 0.000434 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 434.02 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 43.4 mg/kg
Exposure Route: Soil; PNEC Limit: 86.78 mg/kg

diethylene triamine; 2,2'-iminodi(ethylamine)
CAS: 111-40-0

Exposure Route: Marine water; PNEC Limit: 0.056 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 1072 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 107.2 mg/kg
Exposure Route: Intermittent release; PNEC Limit: 0.32 mg/l
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6 mg/l
Exposure Route: Soil; PNEC Limit: 214 mg/kg

Derived No Effect Level (DNEL) values

4-nonylphenol, branched; Isononylphenol
CAS: 84852-15-3

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 0.5 mg/m3; Consumer: 0.4 mg/m3

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Industry: 1 mg/m3; Consumer: 0.8 mg/m3

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Industry: 7.5 mg/kg; Consumer: 3.8 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Worker Industry: 15 mg/kg; Consumer: 7.6 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 0.08 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 0.4 mg/kg

aminoethylpiperazine; 2-piperazin-1-ylethylamine
CAS: 140-31-8

Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects
Worker Industry: 0.04 mg/cm2; Consumer: 0.02 mg/cm2

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Industry: 3.3 mg/kg; Consumer: 1.7 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 3.6 mg/m3; Consumer: 0.9 mg/m3

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Industry: 0.006 mg/cm2; Consumer: 0.003 mg/cm2

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Industry: 21.4 mg/m3; Consumer: 5.3 mg/m3

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 1.5 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 0.3 mg/kg

fatty acids, c18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine; Reaction product of Fatty acids, C18-unsatd., dimers and trimers with amines,

polyethylenepoly-,
triethylenetetramine
fraction
CAS: 68082-29-1

Exposure Route: Human Dermal; Exposure Frequency: Long Term (repeated)
Worker Industry: 1.1 mg/kg; Worker Professional: 0.00011 mg/cm²; Consumer: 0.56 mg/kg

2,4,6-
tri(dimethylaminomethyl)
phenol; Mesitol,
alpha2,alpha4,alpha6-
tris(dimethylamino)-
CAS: 90-72-2

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 0.31 mg/m³

triethylenetetramine
CAS: 112-24-3

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Industry: 5380 mg/m³; Consumer: 1600 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Industry: 0.57 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 1 mg/m³; Consumer: 0.29 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Industry: 0.028 mg/m³; Consumer: 0.43 mg/cm²

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Consumer: 8 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 20 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects
Consumer: 1 mg/cm²

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects
Consumer: 0.43 mg/cm²

diethylene triamine; 2,2'-
iminodi(ethylamine)
CAS: 111-40-0

Exposure Route: Human Oral; Exposure Frequency: Short Term, local effects
Consumer: 4.88 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Industry: 92.1 mg/m³; Consumer: 27.5 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 15.4 mg/m³; Consumer: 4.6 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Industry: 2.6 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Industry: 11.4 mg/kg; Consumer: 4.88 mg/kg

Appropriate engineering controls: Not available

Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use contact lenses.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber - NBR: thickness $\geq 0,35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluorinated rubber - FKM: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Use adequate protective respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance and colour:	liquid yellow
Odour:	ammonia
Odour threshold:	Not Relevant
Melting point / freezing point:	Not Relevant
Initial boiling point and boiling range:	Not Relevant
Flammability:	Not Relevant
Upper/lower flammability or explosive limits:	Not Relevant
Flash point:	94 °C (201 °F)
Auto-ignition temperature:	Not Relevant
Decomposition temperature:	Not Relevant
pH:	Not Relevant
Viscosity:	Not Relevant
Kinematic viscosity:	> 20,5 mm ² /sec (40 °C)
Solubility in water:	Not Relevant
Solubility in oil:	Not Relevant
Partition coefficient (n-octanol/water):	Not Relevant
Vapour pressure:	Not Relevant
Evaporation rate:	Not Relevant
Relative density:	0.96 g/cm ³
Vapour density:	Not Relevant

Particle characteristics:

Particle size:	No data available
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Other information

Explosive properties:	Not Relevant
Oxidizing properties:	Not Relevant
Solid/gas flammability:	Not Relevant
Substance Groups relevant properties:	Not Relevant
Miscibility:	Not Relevant
Fat Solubility:	Not Relevant
Conductivity:	Not Relevant

10. STABILITY AND REACTIVITY**Reactivity**

Stable under normal conditions

Chemical stability

Data not available.

Possibility of hazardous reactions

None.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute toxicity (oral), Category 4(H302) ATEmix - Oral : 1000.34 mg/kg bw
b) skin corrosion/irritation	The product is classified: Skin corrosion, Category 1C(H314)
c) serious eye damage/irritation	The product is classified: Serious eye damage, Category 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sensitization, Category 1(H317)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	The product is classified: Reproductive toxicity, Category 2(H361)
h) STOT-single exposure	Not classified Based on available data, the classification criteria are not met
i) STOT-repeated exposure	The product is classified: Specific target organ toxicity following repeated exposure, Category 1(H372)
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

4-nonylphenol, branched; a) acute toxicity LD50 Oral Rat = 1246 mg/kg
Isononylphenol

aminoethylpiperazine; 2- a) acute toxicity LD50 Skin Rabbit = 866 mg/kg
piperazin-1-ylethylamine

LD50 Oral Rabbit > 2097 mg/kg
LD50 Skin Rabbit = 880 µL/kg
LD50 Oral Rat = 2140 µL/kg

e) germ cell mutagenicity NOAEL Rat > 899 mg/kg
g) reproductive toxicity NOAEL Oral Rat = mg/kg

fatty acids, c18- a) acute toxicity LD50 Oral Rat > 2000 mg/kg
unsaturated, dimers,
polymers with tall-oil
fatty acids and
triethylenetetramine;
Reaction product of Fatty
acids, C18-unsatd.,
dimers and trimers with
amines,
polyethylenepoly-,
triethylenetetramine
fraction

LD50 Skin Rat > 2000 mg/kg

2,4,6- a) acute toxicity LD50 Skin Rat > 1 ml/kg
tri(dimethylaminomethyl)
phenol; Mesityl,
alpha2,alpha4,alpha6-
tris(dimethylamino)-

triethylenetetramine a) acute toxicity LD50 Skin Rabbit 1465 mg/kg
LD50 Oral Rat = 2500 mg/kg

diethylene triamine; 2,2'- a) acute toxicity
iminodi(ethylamine)

LD50 Skin Rabbit = 1045 mg/kg

LD50 Oral Rat = 1553 mg/kg

LC50 Inhalation Mist 0.07 mg/l

Substance(s) listed on the IARC Monographs:

None

Substance(s) listed as OSHA Carcinogen(s):

None

Substance(s) listed as NIOSH Carcinogen(s):

None

Substance(s) listed on the NTP report on Carcinogens:

None

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

The product is classified: Acute aquatic hazard, category 1(H400), Chronic (long term) aquatic hazard, category 1(H410)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
4-nonylphenol, branched; Isononylphenol	CAS: 84852-15-3 - EINECS: 284-325-5 - INDEX: 601-053-00-8	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 0.135 mg/L 96h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 0.1351 mg/L 96h EPA
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 0.14 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata 0.36 mg/L 96h EPA
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata 0.16 mg/L 72h EPA
aminoethylpiperazine; 2-piperazin-1-ylethylamine	CAS: 140-31-8 - EINECS: 205-411-0 - INDEX: 612-105-00-4	b) Aquatic chronic toxicity : NOEC Fish 0.009 mg/L 21d ECHA
		a) Aquatic acute toxicity : LC50 Fish = 2190 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia = 58 mg/L 48
		a) Aquatic acute toxicity : EC50 Algae > 1000 mg/L 72
		a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 1950 mg/L 96h EPA
		a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata > 1000 mg/L 96h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss >= 100 mg/L 96h IUCLID
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 32 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 495 mg/L 72h IUCLID

fatty acids, c18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine; Reaction product of Fatty acids, C18-unsatd., dimers and trimers with amines, polyethylenepoly-, triethylenetetramine fraction	CAS: 68082-29-1 - EINECS: 500-191-5	a) Aquatic acute toxicity : LC50 Fish = 7.07 mg/L 96h
		a) Aquatic acute toxicity : EC50 Daphnia = 7.07 mg/L 48h
		a) Aquatic acute toxicity : EC50 Algae > 4.34 mg/L 72h
2,4,6-tri(dimethylaminomethyl)phenol; Mesitol, alpha2,alpha4,alpha6-tris(dimethylamino)-	CAS: 90-72-2 - EINECS: 202-013-9 - INDEX: 603-069-00-0	a) Aquatic acute toxicity : LC50 Fish = 175 mg/L 96h
		a) Aquatic acute toxicity : EC50 Algae = 46.7 mg/L 72h
		a) Aquatic acute toxicity : NOEC Algae = 25.1 mg/L 72h
triethylenetetramine	CAS: 112-24-3 - EINECS: 203-950-6 - INDEX: 612-059-00-5	a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 570 mg/L 96h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 495 mg/L 96h IUCLID
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 31.1 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 2.5 mg/L 72h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 20 mg/L 72h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 3.7 mg/L 96h EPA
diethylene triamine; 2,2'-iminodi(ethylamine)	CAS: 111-40-0 - EINECS: 203-865-4 - INDEX: 612-058-00-X	a) Aquatic acute toxicity : LC50 Fish = 430 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia = 32 mg/L 48

Persistence and degradability

Component	Persitence/Degradability:
fatty acids, c18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine; Reaction product of Fatty acids, C18-unsatd., dimers and trimers with amines, polyethylenepoly-, triethylenetetramine fraction	Non-readily biodegradable

Bioaccumulative potential

Component	Bioaccumulation	Test	Duration	Value
4-nonylphenol, branched; Isononylphenol	Not bioaccumulative	BCF - Bioconcentration factor	28 d	740

Mobility in soil

N.A.

Other adverse effects

N.A.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

14. TRANSPORT INFORMATION

UN number

DOT-UN Number: UN3267

ADR-UN number: 3267

IATA-Un number: 3267

IMDG-Un number: 3267

UN proper shipping name

DOT-Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s. (Phenol, 4-nonyl-, branched - aminoethylpiperazine)

ADR-Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Phenol, 4-nonyl-, branched - aminoethylpiperazine)

IATA-Technical name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Phenol, 4-nonyl-, branched - aminoethylpiperazine)

IMDG-Technical name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Phenol, 4-nonyl-, branched - aminoethylpiperazine)

Transport hazard class(es)

DOT-Hazard Class: 8

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

Packing group

DOT Packing Group: III

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

Environmental hazards

Marine pollutant: Yes

Environmental Pollutant: Not Applicable

DOT-RQ: No

Transport in bulk according to IMO instruments

N.A.

Not Applicable

Special precautions

Department of Transportation (DOT):

DOT-Special Provision(s): IB3, T7, TP1, TP28

DOT-Label(s): 8

DOT-Symbol: N/A

DOT-Cargo Aircraft: 60 L

DOT-Passenger Aircraft: 5 L

DOT-Bulk: 241

DOT-Non-Bulk: 203

DOT-Limited Quantity threshold: 5 L

Road and Rail (ADR-RID) :

ADR-Label: 8

ADR-Hazard identification number: 80

ADR-Transport category (Tunnel restriction code): 3 (E)

Air (IATA) :

IATA-Passenger Aircraft: 852

IATA-Cargo Aircraft: 856

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisioning: A3 A803
Sea (IMDG) :
IMDG-Stowage and handling: Category A SW2
IMDG-Segregation: SG35 SGG18
IMDG-Subsidiary hazards: -
IMDG-Special Provisioning: 223 274
IMDG-EMS: F-A, S-B

15. REGULATORY INFORMATION

This Safety Data Sheet has been prepared according to the Hazard Communication Standard 2024 (HCS 2024)

USA - Federal regulations

TSCA - Toxic Substances Control Act

All the components are listed on the TSCA inventory

TSCA listed substances:

- 4-nonylphenol, branched;
Isononylphenol
- is listed in TSCA
- Section 8b
Section 8a - PAIR
Section 5a -
SNUR
Section 12b
- aminoethylpiperazine; 2-piperazin-
1-ylethylamine
- is listed in TSCA
- Section 8b
- fatty acids, c18-unsaturated,
dimers, polymers with tall-oil fatty
acids and triethylenetetramine;
Reaction product of Fatty acids,
C18-unsatd., dimers and trimers
with amines, polyethylenepoly-,
triethylenetetramine fraction
- is listed in TSCA
- Section 8b
- 2,4,6-
tri(dimethylaminomethyl)phenol;
Mesityl, alpha2,alpha4,alpha6-
tris(dimethylamino)-
- is listed in TSCA
- Section 8b
- triethylenetetramine
- is listed in TSCA
- Section 8b
- diethylene triamine; 2,2'-
iminodi(ethylamine)
- is listed in TSCA
- Section 8b

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

No substances listed

Section 304 - Hazardous substances:

No substances listed

Section 313 - Toxic chemical list:

4-nonylphenol, branched; Isononylphenol

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

No substances listed

CAA - Clean Air Act

CAA listed substances:

No substances listed

CWA - Clean Water Act

CWA listed substances:

No substances listed

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

No substances listed

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

- aminoethylpiperazine; 2-piperazin-1-ylethylamine
triethylenetetramine
diethylene triamine; 2,2'-iminodi(ethylamine)

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

aminoethylpiperazine; 2-piperazin-1-ylethylamine
triethylenetetramine
diethylene triamine; 2,2'-iminodi(ethylamine)

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

aminoethylpiperazine; 2-piperazin-1-ylethylamine
triethylenetetramine
diethylene triamine; 2,2'-iminodi(ethylamine)

Canada - Federal regulations

DSL - Domestic Substances List

All the substances are listed in the DSL.

NDSL - Non Domestic Substances List

This product complies with NDSL inventory

NPRI - National Pollutant Release Inventory

NPRI (National Pollutant Release Inventory) - List of substances listed.

No substances listed

16. OTHER INFORMATION

Safety Data Sheet dated: 11/26/2025 - version 13

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
A.1/2/Inhal	Acute Tox. 2	Acute toxicity (inhalation), Category 2
A.1/3/Dermal	Acute Tox. 3	Acute toxicity (dermal), Category 3
A.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
A.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
A.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
A.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
A.2/2	Skin Irrit. 2	Skin irritation, Category 2
A.3/1	Eye Dam. 1	Serious eye damage, Category 1

A.4.2/1	Skin Sens. 1	Skin Sensitization, Category 1
A.7/2	Repr. 2	Reproductive toxicity, Category 2
A.8/3	STOT SE 3	Specific target organ toxicity following single exposure, Category 3
A.9/1	STOT RE 1	Specific target organ toxicity following repeated exposure, Category 1
US-HAE/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
US-HAE/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
US-HAE/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
US-HAE/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
 IMDG: International Maritime Code for Dangerous Goods.
 IATA: International Air Transport Association.
 IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
 ICAO: International Civil Aviation Organization.
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
 CLP: Classification, Labeling, Packaging.
 EU CLP Index: Index number as reported in Annex VI to EU Reg. 1272/2008
 EINECS: European Inventory of Existing Commercial Chemical Substances.
 INCI: International Nomenclature of Cosmetic Ingredients.
 CAS: Chemical Abstracts Service (division of the American Chemical Society).
 GefStoffVO: Ordinance on Hazardous Substances, Germany.
 LC50: Lethal concentration, for 50 percent of test population.
 LD50: Lethal dose, for 50 percent of test population.
 DNEL: Derived No Effect Level.
 PNEC: Predicted No Effect Concentration.
 TLV: Threshold Limiting Value.
 TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
 STEL: Short Term Exposure limit.
 STOT: Specific Target Organ Toxicity.
 WGK: German Water Hazard Class.
 KSt: Explosion coefficient.

Paragraphs modified from the previous revision:

- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION