

## Safety Data Sheet

### ULTRABOND G-21 PART B

Safety Data Sheet dated: 08/30/2023 - version 10

Date of first edition: 05/13/2015



## 1. IDENTIFICATION

### Product identifier

Mixture identification:

Trade name: ULTRABOND G-21 PART 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, address, and 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 (dermal), Category 4

Skin corrosion, Category 1B

Serious eye damage, Category 1

Skin Sensitization, Category 1A

Reproductive toxicity, Category 1B

Acute aquatic hazard, category 1

Chronic (long term) aquatic hazard, category 1

Harmful in contact with skin.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

May damage fertility or the unborn child if inhaled, in contact with skin and if swallowed.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

### Label elements

#### Hazard pictograms and Signal Word



Danger

### Hazard statements

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H360 May damage fertility or the unborn child 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.

P272 Contaminated work clothing must not be allowed out of the workplace.

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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/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.
P321	Specific treatment (see supplementary instructions on this label).
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.
P405	Store locked up.
P501	Dispose of contents/container in accordance with applicable regulations.

**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	Registration Number
50-75 %	4-nonylphenol, branched; Isononylphenol	CAS:84852-15-3 EC:284-325-5 Index:601-053-00-8	Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Repr. 2, H361	
10-20 %	aminoethylpiperazine; 2-piperazin-1-ylethylamine	CAS:140-31-8 EC:205-411-0 Index:612-105-00-4	Acute Tox. 3, H311; Skin Corr. 1B, H314; Skin Sens. 1, H317; Eye Dam. 1, H318; Repr. 1B, H360	
10-20 %	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 Irrit. 2A, H319; Aquatic Chronic 2, H411	
2.5-5 %	2,4,6-tri(dimethylaminomethyl)phenol; Mesitol, alpha2,alpha4,alpha6-tris(dimethylamino)-	CAS:90-72-2 EC:202-013-9 Index:603-069-00-0	Skin Corr. 1B, H314; Skin Sens. 1A, H317; Aquatic Chronic 3, H412	

**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:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

**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)

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## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

### 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.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

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.

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## 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.

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

No data available

Appropriate engineering controls: Not available

### Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: paste beige

Odour: characteristic

Odour threshold: Not Relevant

pH: Not Relevant

Melting point / freezing point: Not Relevant

Initial boiling point and boiling range: Not Relevant

Flash point: 100 °C (212 °F)

Evaporation rate: Not Relevant

Upper/lower flammability or explosive limits: Not Relevant

Vapour density: Not Relevant

Vapour pressure: Not Relevant

Relative density: 0.95 g/cm<sup>3</sup>

Solubility in water: Not Relevant

Solubility in oil: Not Relevant

Partition coefficient (n-octanol/water): Not Relevant

Auto-ignition temperature: Not Relevant

Decomposition temperature: Not Relevant

Viscosity: Not Relevant

Explosive properties: Not Relevant

Oxidizing properties: Not Relevant

Solid/gas flammability: Not Relevant

### Other information

Substance Groups relevant properties Not Relevant

Miscibility: Not Relevant

Fat Solubility: Not Relevant

Conductivity: Not Relevant

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## 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.

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**11. TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

**Toxicological Information of the Preparation**

- |                                      |   |
|--------------------------------------|---|
| a) acute toxicity                    | The product is classified: Acute toxicity (dermal), Category 4(H312)<br>ATEmix - Dermal : 1515.2 mg/kg bw |
| b) skin corrosion/irritation         | The product is classified: Skin corrosion, Category 1B(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 1A(H317)  |
| e) germ cell mutagenicity            | Not classified<br>Based on available data, the classification criteria are not met                        |
| f) carcinogenicity                   | Not classified<br>Based on available data, the classification criteria are not met                        |
| g) reproductive toxicity             | The product is classified: Reproductive toxicity, Category 1B(H360)                                       |
| h) STOT-single exposure              | Not classified<br>Based on available data, the classification criteria are not met                        |
| i) STOT-repeated exposure            | Not classified<br>Based on available data, the classification criteria are not met                        |
| j) aspiration hazard                 | Not classified<br>Based on available data, the classification criteria are not met                        |

**Toxicological information on main components of the mixture:**

- |   |                   |  |
|---|-------------------|--|
| 4-nonylphenol, branched;<br>Isononylphenol  | a) acute toxicity | LD50 Oral Rat 1300 mg/kg<br><br>LD50 Skin Rabbit > 2000 mg/kg<br>LD50 Skin Rabbit = 2000 mg/kg<br>LD50 Oral Rat = 1300 mg/kg |
| aminoethylpiperazine; 2-<br>piperazin-1-ylethylamine  | a) acute toxicity | LD50 Skin Rabbit = 880 µL/kg<br><br>LD50 Oral Rat = 2140 mg/kg<br>LD50 Oral Rat = 2140 µL/kg<br>LD50 Skin Rabbit = 880 µL/kg |
| 2,4,6-<br>tri(dimethylaminomethyl)<br>phenol; Mesitol,<br>alpha2,alpha4,alpha6-<br>tris(dimethylamino)- | a) acute toxicity | LD50 Skin Rat = 1280 mg/kg<br><br>LD50 Oral Rat = 1000 mg/kg<br>LD50 Skin Rat = 1280 mg/kg<br>LD50 Oral Rat = 1200 mg/kg     |

**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	LC50 Fish Pimephales promelas 0.135 mg/L 96h ,,Holcombe, G.W., Phipps, G.L., Knuth, M.L. and Felhaber, T. (1984) Environ. Pollut. (Series A) 35, 367-381  LC100 Fish Leuciscus idus 1.1 mg/L 48h ,,Huels study, 1988 (unpublished) LC50 Fish Leuciscus idus 0.95 mg/L 48h ,,Huels study, 1988 (unpublished) LOEC Fish Pimephales promelas 14 µg/L 33d ,,Chemical Manufacturers Association (1991) Two environmental effects 4-Nonylphenol final reports 1. Chronic toxicity of Nonylphenol to the Mysid, Mysidopsis bahia: EnviroSystems Study Number 8977-CMA 2. Early life stage toxicity of Nonylphenol to the fath  NOEC Fish Pimephales promelas 7.4 µg/L 33d ,,Chemical Manufacturers Association (1991) Two environmental effects 4-Nonylphenol final reports 1. Chronic toxicity of Nonylphenol to the Mysid, Mysidopsis bahia: EnviroSystems Study Number 8977-CMA 2. Early life stage toxicity of Nonylphenol to the fath  EC100 Daphnia Daphnia magna > 400 µg/L 48h ,,Huels report No. DK-522, 1992 (unpublished)  EC0 Daphnia Daphnia magna < 100 µg/L 48h ,,Huels report No. DK-522, 1992 (unpublished)  EC50 Daphnia Daphnia magna 140 µg/L 48h ,,Huels report No. DK-522, 1992 (unpublished)  LOEC Daphnia Daphnia magna > 100 µg/L 21d ,,Huels report No. DL-143, 1992 (unpublished)  NOEC Daphnia Daphnia magna 0.024 mg/L 21d ICI PLC (1991) Nonyl Phenol: Chronic Toxicity to Daphnia Magna Report No: BLS1319/B (Interim) BL4176/B (Final)  EC90 Algae Scenedesmus subspicatus (Desmodesmus subspicatus) 3.2 mg/L 72h Huels study (unpublished)  EC10 Algae Scenedesmus subspicatus (Desmodesmus subspicatus) 0.5 mg/L 72h Huels study (unpublished)  EC50 Algae Scenedesmus subspicatus (Desmodesmus subspicatus) 1.3 mg/L 72h Huels study (unpublished)  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  a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 1.3 mg/L 72h IUCLID

aminoethylpiperazine; 2-piperazin-1-ylethylamine CAS: 140-31-8 - EINECS: 205-411-0 - INDEX: 612-105-00-4

a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 1950 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 Danio rerio = 7.07 mg/L 96h ECHA

### Persistence and degradability

N.A.

### Bioaccumulative potential

N.A.

### Mobility in soil

N.A.

### Other adverse effects

N.A.

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## 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.

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## 14. TRANSPORT INFORMATION

### UN number

DOT-UN Number: UN1760

ADR-UN number: 1760

IATA-Un number: 1760

IMDG-Un number: 1760

### UN proper shipping name

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

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

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

IMDG-Technical name: CORROSIVE LIQUID, 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 Annex II of MARPOL73/78 and the IBC Code**

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: N/A

DOT-Passenger Aircraft: N/A

DOT-Bulk: N/A

DOT-Non-Bulk: N/A

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 Code: Category A SW2

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 223 274

IMDG-EMS: F-A, S-B

**15. REGULATORY INFORMATION****USA - Federal regulations****TSCA - Toxic Substances Control Act**

All the components are listed on the TSCA inventory

**TSCA listed substances:**4-nonylphenol, branched; is listed in TSCA Section 8b Section 8a - PAIR Section 5a -  
Isononylphenol SNUR Section 12baminoethylpiperazine; 2-piperazin- is listed in TSCA Section 8b  
1-yethylaminefatty acids, c18-unsaturated, is listed in TSCA Section 8b  
dimers, polymers with tall-oil fatty  
acids and triethylenetetramine;  
Reaction product of Fatty acids,  
C18-unsatd., dimers and trimers  
with amines, polyethylenepoly-,

triethylenetetramine fraction

2,4,6- is listed in TSCA Section 8b  
tri(dimethylaminomethyl)phenol;  
Mesityl, alpha2,alpha4,alpha6-  
tris(dimethylamino)-

**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

**Pennsylvania Right to know**

**Substance(s) listed under Pennsylvania Right to know:**

aminoethylpiperazine; 2-piperazin-1-ylethylamine

**New Jersey Right to know**

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

aminoethylpiperazine; 2-piperazin-1-ylethylamine

**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

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**16. OTHER INFORMATION**

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**Additional classification information**

NFPA Health: 3 = Serious

NFPA Flammability: 1 = Combustible if heated

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: NONE

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.



<b>Code</b>	<b>Description</b>
H302	Harmful if swallowed.
H311	Toxic 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.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
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.

<b>Code</b>	<b>Hazard class and hazard category</b>	<b>Description</b>
A.1/3/Dermal	Acute Tox. 3	Acute toxicity (dermal), Category 3
A.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
A.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
A.2/2	Skin Irrit. 2	Skin irritation, Category 2
A.3/1	Eye Dam. 1	Serious eye damage, Category 1
A.3/2A	Eye Irrit. 2A	Eye irritation, Category 2A
A.4.2/1	Skin Sens. 1	Skin Sensitization, Category 1
A.4.2/1A	Skin Sens. 1A	Skin Sensitization, Category 1A
A.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
A.7/2	Repr. 2	Reproductive toxicity, Category 2
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.
- 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:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION

- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 5. FIRE-FIGHTING MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION
- 16. OTHER INFORMATION