Safety Data Sheet
MAPEWRAP 31 T NA / B
Safety Data Sheet dated: 06/23/2025 - version 5
Date of first edition: 09/04/2019

1. IDENTIFICATION

Product identifier used on the label

Mixture identification:

Trade name: MAPEWRAP 31 T NA / B

Trade code: 9073234

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	Harmful if swallowed.
Serious eye damage, Category 1	Causes serious eye damage.
Skin Sensitization, Category 1A	May cause an allergic skin reaction.
Acute aquatic hazard, category 3	Harmful to aquatic life
Chronic (long term) aquatic hazard, category 3	Harmful to aquatic life with long lasting effects.
Skin corrosion, Category 1C	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.
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

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/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.
P310	Immediately call a doctor.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
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
25-50 %	1,3-benzenedimethanamine; m-phenylenebis(methylamine)	CAS:1477-55-0 EC:216-032-5	Acute Tox. 4, H332; Acute Tox. 4, H302; Aquatic Chronic 3, H412; Aquatic Acute 3, H402; Skin Corr. 1B, H314; Skin Sens. 1B, H317
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 Dam. 1, H318; Aquatic Chronic 2, H411
5-10 %	cashew nut oil	CAS:8007-24-7 EC:232-355-4	Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317
0.49-1 %	triethylenetetramine	CAS:112-24-3 EC:203-950-6 Index:612-059-00-5	Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412; Acute Tox. 4, H312

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 opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Give nothing to eat or drink.

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)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO_2).

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 available

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.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

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

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
1,3-benzenedimethanamine; m-phenylenebis(methylamine)	ACGIH		Short Term: Ceiling - 0.1 mg/m3 Skin - Eye, skin, and GI irr

CAS: 1477-55-0

ACGIH		Short Term: Ceiling - 0.1 mg/m3
ACGIH		Skin - potential significant contribution to overall exposure by the cutaneous route;eye, gastrointestinal and skin irritation
MAK	AUSTRIA	Long Term: 0.1 mg/m3; Short Term: 0.1 mg/m3
MAK	SWITZERLAND	Long Term: 0.1 mg/m3
MAK	AUSTRIA	Short Term: Ceiling - 0.1 mg/m3
ACGIH		Short Term: Ceiling - 0.1 mg/m3
ACGIH		Skin - potential significant contribution to overall exposure by the cutaneous route;eye, gastrointestinal and skin irritation
ACGIH		Short Term: Ceiling - 0.018 ppm

Predicted No Effect Concentration (PNEC) values

1,3-benzenedimethanamine; m-phenylenebis (methylamine) CAS: 1477-55-0	Exposure Route: Fresh Water; PNEC Limit: 0.094 mg/kg
	Exposure Route: Marine water; PNEC Limit: 0.0094 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 0.43 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0.043 mg/kg
	Exposure Route: Intermittent release; PNEC Limit: 0.152 mg/l
	Exposure Route: Soil; PNEC Limit: 0.045 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 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: Fresh Water; PNEC Limit: 0.00434 mg/l
	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

Derived No Effect Level (DNEL) values

1,3-benzenedimethanamine; m-phenylenebis (methylamine) CAS: 1477-55-0	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 0.33 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 1.2 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Industry: 0.2 mg/m3
fatty acids, c18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine; Reaction product of Fatty acids, C18-unsatd., dimers and trimers with	Exposure Route: Human Inhalation; Exposure Frequency: Long Term (repeated) Worker Industry: 0.00039 mg/cm2; Worker Professional: 0.00039 mg/cm2; Consumer: 0.000097 mg/cm2

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

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

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 >=0,5mm; breakthrough time >=480min.

Nitrile rubber - NBR: thickness >=0,35mm; breakthrough time >=480min.

Butyl rubber - IIR: thickness >=0,5mm; breakthrough time >=480min.

Fluorinated rubber - FKM: thickness >=0,4mm; breakthrough time >=480min.

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:	paste white, light yellow
Odour:	typical
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:	1.15 g/cm3
Solubility in water:	partly soluble
Solubility in oil:	insoluble
Partition coefficient (n-octanol/water):	Not Relevant
Auto-ignition temperature:	Not Relevant
Decomposition temperature:	Not Relevant
Viscosity:	12,655.00 mPA-s
Explosive properties:	N.A.
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

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 : 1840.86 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 1A(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	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met

i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

1,3-benzenedimethanamine; m-phenylenebis (methylamine)	a) acute toxicity	LD50 Oral Mouse = 930 mg/kg
		LD50 Skin Rabbit = 2000 mg/kg
		LC50 Inhalation Mist Rat = 1.34 mg/l 4h
		LC50 Inhalation Rat = 700 ppm 1h
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	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg
		LD50 Skin Rat > 2000 mg/kg
cashew nut oil	a) acute toxicity	LD50 Oral Rat > 1000 mg/kg
triethylenetetramine	a) acute toxicity	LD50 Skin Rabbit 1465 mg/kg
		LD50 Oral Rat = 2500 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 3(H402), Chronic (long term) aquatic hazard, category 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
1,3-benzenedimethanamine; m-phenylenebis(methylamine)	CAS: 1477-55-0 - EINECS: 216-032-5	a) Aquatic acute toxicity : EC50 Algae = 20 mg/L 72h
		a) Aquatic acute toxicity : EC50 Daphnia = 15.2 mg/L 48h
		a) Aquatic acute toxicity : LC50 Fish Oryzias latipes = 87.6 mg/L 96h ECHA

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
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

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

N.A.

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: 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. (m-xylylendiamine)
ADR-Shipping Name: CORROSIVE LIQUID, N.O.S. (m-xylylendiamine)
IATA-Technical name: CORROSIVE LIQUID, N.O.S. (m-xylylendiamine)
IMDG-Technical name: CORROSIVE LIQUID, N.O.S. (m-xylylendiamine)

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: No
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
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: -
IMDG-Subsidiary hazards: -
IMDG-Special Provisioning: 223 274
IMDG-EMS: F-A, S-B

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15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

All the components are listed on the TSCA inventory

TSCA listed substances:

1,3-benzenedimethanamine; m- is listed in TSCA Section 8b

phenylenebis(methylamine)		
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
cashew nut oil	is listed in TSCA	Section 8b
triethylenetetramine	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:

No substances listed

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:

1,3-benzenedimethanamine; m-phenylenebis(methylamine)

triethylenetetramine

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

1,3-benzenedimethanamine; m-phenylenebis(methylamine)

triethylenetetramine

New Jersey Right to know

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

1,3-benzenedimethanamine; m-phenylenebis(methylamine)

triethylenetetramine

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

Safety Data Sheet dated: 6/23/2025 - version 5

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.
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.
H332	Harmful if inhaled.
H402	Harmful to aquatic life
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.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
A.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), 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.2/2	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.4.2/1A	Skin Sens. 1A	Skin Sensitization, Category 1A
A.4.2/1B	Skin Sens. 1B	Skin Sensitization, Category 1B
US-HAE/A3	Aquatic Acute 3	Acute aquatic hazard, category 3
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
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION