

Safety Data Sheet
MAPESHIELD CI 110

Safety Data Sheet dated: 10/28/2025 - version 4

Date of first edition: 07/14/2021



1. IDENTIFICATION

Product identifier used on the label

Mixture identification:

Trade name: MAPESHIELD CI 110

Trade code: 9020984

Recommended use of the chemical and restrictions on use

Recommended use: Coating

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

Flammable Liquids — Category 4

Skin corrosion, Category 1B

Serious eye damage, Category 1

Reproductive toxicity, Category 2

Combustible liquid

Causes severe skin burns and eye damage.

Causes serious eye damage.

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

Label elements

Hazard pictograms and Signal Word



Danger

Hazard statements

H227 Combustible liquid

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

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

Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P260 Do not breathe mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/clothing and eye/face protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

1

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

3

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.
- P363 Wash contaminated clothing before reuse.
- P370+P378 In case of fire, use a dry powder fire extinguisher to extinguish.
- P403 Store in a well-ventilated place.
- 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
≥70 - <80 %	triethoxycaprylsilane; n-Octyltriethoxysilane	CAS:2943-75-1 EC:220-941-2	Skin Irrit. 2, H315
≥15 - <20 %	methyltris(cyclohexylamino)silane; N,N',N''-tricyclohexyl-1-methylsilanetriamine	CAS:15901-40-3 EC:240-040-8	Acute Tox. 4, H302; Acute Tox. 4, H312; STOT SE 3, H335; Skin Corr. 1B, H314
≥0.6 - <1 %	ethyl alcohol; ethanol	CAS:64-17-5 EC:200-578-6 EU CLP Index:603-002-00-5	Flam. Liq. 2, H225
≥0.25 - <0.3 %	cyclohexylamine; 1-aminocyclohexane	CAS:108-91-8 EC:203-629-0 EU CLP Index:612-050-00-6	Flam. Liq. 3, H226; Acute Tox. 4, H302; Acute Tox. 4, H312; Repr. 2, H361; Skin Corr. 1B, H314
≥0.25 - <0.3 %	toluene; 1-Methylbenzene	CAS:108-88-3 EC:203-625-9 EU CLP Index:601-021-00-3	Flam. Liq. 2, H225; Asp. Tox. 1, H304; STOT RE 2, H373; Skin Irrit. 2, H315; STOT SE 3, H336; Repr. 2, H361; Aquatic Chronic 3, H412; Aquatic Acute 2, H401

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.
- 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)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

In case of fire, use a dry powder fire extinguisher to extinguish.

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.

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.

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

Store cool and dry.

Always keep in a well ventilated place.

Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Store in a well-ventilated place. Keep cool.

Avoid direct exposure to sunlight.

Opened containers must be carefully resealed and kept upright to prevent leakage.

Flammable mixtures may accumulate within the headspace of containers at room temperature.

Storage at higher temperatures requires an appropriate evaluation of preventive and protection measures to be adopted.

Storage temperature must be defined on the basis of a proper risk evaluation. Refer to other sections for additional information.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

Storage temperature: Not available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
ethyl alcohol; ethanol CAS: 64-17-5	ACGIH		Long Term: 1900 mg/m3
	MAK	GERMANY	Long Term: 380 mg/m3 - 200 ppm
	OSHA	AUSTRALIA	Short Term: Ceiling - 9500 mg/m3 - 1000 ppm
	ACGIH		Long Term: 1880 mg/m3 - 1000 ppm
	MAK	AUSTRIA	Long Term: 1900 mg/m3
	MAK	SWITZERLAND	Long Term: 960 mg/m3 - 500 ppm; Short Term: 1920 mg/m3 - 1000 ppm
cyclohexylamine; 1-aminocyclohexane CAS: 108-91-8	ACGIH		Long Term: 10 ppm A4 - Not Classifiable as a Human Carcinogen; eye and upper respiratory tract irritation;
	MAK	GERMANY	Long Term: 8.2 mg/m3 - 2 ppm
	ACGIH		Long Term: 10 ppm A4 - Not Classifiable as a Human Carcinogen; eye and upper respiratory tract irritation
	MAK	AUSTRIA	Long Term: 40 mg/m3 - 10 ppm; Short Term: 40 mg/m3 - 10 ppm
	MAK	SWITZERLAND	Long Term: 8.2 mg/m3 - 2 ppm
	MAK	AUSTRIA	Short Term: Ceiling - 40 mg/m3 - 10 ppm
toluene; 1-Methylbenzene CAS: 108-88-3	ACGIH		Long Term: 380 mg/m3 - 20 ppm; Short Term: 760 mg/m3 - 200 ppm A4, BEI - Visual impair, female repro, pregnancy loss
	MAK	HUNGARY	Long Term: 50 ppm A4 - Not Classifiable as a Human Carcinogen; female reproductive damage; pregnancy loss; visual impairment
	OSHA	AUSTRALIA	Short Term: Ceiling - 574 mg/m3 - 150 ppm
	ACGIH		Long Term: 20 ppm
	OSHA	BRAZIL	Long Term: 78 ppm
	EU	FRANCE	Long Term: 192 mg/m3 - 50 ppm
	MAK	AUSTRIA	Short Term: 380 mg/m3
	MAK	SWITZERLAND	Long Term: 190 mg/m3 - 50 ppm; Short Term: 760 mg/m3 - 200 ppm
	EU		Long Term: 192 mg/m3 - 50 ppm; Short Term: 384 mg/m3 - 100 ppm Skin

Biological limit values

toluene; 1-Methylbenzene
CAS: 108-88-3

Biological Indicator: Toluene; Sampling Period: Before last turn of the working week
Value: 0.02 mg/L; Medium: Blood

Biological Indicator: Toluene; Sampling Period: End of turn
Value: 0.03 mg/L; Medium: Urine

Biological Indicator: O-Cresol; Sampling Period: End of turn
Value: 0.3 MGGCREAT; Medium: Urine
Remark: Background

Predicted No Effect Concentration (PNEC) values

triethoxycaprylsilane; n-
Octyltriethoxysilane
CAS: 2943-75-1

Exposure Route: Fresh Water; PNEC Limit: 0.0058 mg/l

Exposure Route: Marine water; PNEC Limit: 0.00058 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 0.51 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.051 mg/kg

Exposure Route: Soil; PNEC Limit: 0.08 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l

ethyl alcohol; ethanol CAS: 64-17-5	Exposure Route: Marine water; PNEC Limit: 0.79 mg/l
	Exposure Route: Fresh Water; PNEC Limit: 0.96 mg/l
	Exposure Route: Marine water sediments; PNEC Limit: 2.9 mg/kg
	Exposure Route: Freshwater sediments; PNEC Limit: 3.6 mg/kg
toluene; 1-Methylbenzene CAS: 108-88-3	Exposure Route: Freshwater sediments Remark: PNEC
	Exposure Route: Soil Remark: PNEC
	Exposure Route: Marine water sediments Remark: PNEC
	Exposure Route: Fresh Water Remark: PNEC
	Exposure Route: Marine water Remark: PNEC
	Exposure Route: Intermittent release Remark: PNEC
	Exposure Route: Microorganisms in sewage treatments

Derived No Effect Level (DNEL) values

triethoxycaprylsilane; n-Octyltriethoxysilane CAS: 2943-75-1	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 16 mg/m3; Consumer: 5.4 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 16 mg/m3; Consumer: 5.4 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 9.1 mg/kg; Consumer: 6.2 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Industry: 9.1 mg/kg; Consumer: 6.2 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 6.2 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 6.2 mg/kg
ethyl alcohol; ethanol CAS: 64-17-5	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Industry: 1900 mg/m3; Consumer: 950 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 343 mg/kg; Consumer: 206 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 950 mg/m3; Consumer: 114 mg/m3
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 87 mg/kg
toluene; 1-Methylbenzene CAS: 108-88-3	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 384 mg/m3; Consumer: 226 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 192 mg/m3
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Consumer: 226 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 384 mg/m3

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:	characteristic
Odour threshold:	Not Relevant
Melting point / freezing point:	Not Relevant
Initial boiling point and boiling range:	Not Relevant
Flammability:	The product is classified Flam. Liq. 4
Upper/lower flammability or explosive limits:	Not Relevant
Flash point:	76 °C (169 °F)
Auto-ignition temperature:	Not Relevant
Decomposition temperature:	Not Relevant
pH:	11.06
Viscosity:	0.00 PA-s
Kinematic viscosity:	> 20,5 mm ² /sec (40 °C)
Solubility in water:	insoluble
Solubility in oil:	insoluble
Partition coefficient (n-octanol/water):	Not Relevant
Vapour pressure:	No data available
Evaporation rate:	Not Relevant
Relative density:	0.89 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

10. STABILITY AND REACTIVITY

Reactivity

Stable

Chemical stability

Data not available.

Possibility of hazardous reactions

None.

Conditions to avoid

No data available

Incompatible materials

Data not available.

Hazardous decomposition products

Data not available.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
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	Not classified
	Based on available data, the classification criteria are not met
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	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:

triethoxycaprylsilane; n-Octyltriethoxysilane	a) acute toxicity	LD50 Oral Rat > 5110 mg/kg
		LD50 Skin Rat = 6730 mg/kg
		LD50 Oral Rat = 10060 µL/kg
methyltris(cyclohexylamino)silane; N,N',N''-tricyclohexyl-1-methylsilanetriamine	a) acute toxicity	LD50 Skin Rat = 1594 mg/kg
		LD50 Oral Rat = 637 mg/kg
ethyl alcohol; ethanol	a) acute toxicity	LD50 Oral Rat = 10470 mg/kg
		LD50 Skin Rat = 15800 mg/kg
		LC50 Inhalation Rat = 116.9 mg/l 4h
		LC50 Inhalation Rat = 133.8 mg/l 4h
		LD50 Oral Rat = 7060 mg/kg

cyclohexylamine; 1-aminocyclohexane	a) acute toxicity	LD50 Skin Rabbit = 277 mg/kg
		LC50 Inhalation Rat = 1000 ppm 16h
		LD50 Oral Rat = 11 mg/kg
toluene; 1-Methylbenzene	a) acute toxicity	LD50 Oral Rat = 5580 mg/kg
		LD50 Skin Rabbit = 12124 mg/kg
		LC50 Inhalation Rat = 12.5 mg/l 4h
	g) reproductive toxicity	NOAEC Rat = 1200 ppm NOAEL Rat = 2000 ppm

Substance(s) listed on the IARC Monographs:

ethyl alcohol; ethanol	Group 1
cyclohexylamine; 1-aminocyclohexane	Group 3
toluene; 1-Methylbenzene	Group 3

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

ethyl alcohol; ethanol

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

None

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

ethyl alcohol; ethanol

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

Not classified for environmental hazards.

Based on available data, the classification criteria are not met

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
triethoxycaprylylsilane; n-Octyltriethoxysilane	CAS: 2943-75-1 - EINECS: 220-941-2	a) Aquatic acute toxicity : EC50 Daphnia > 0.049 mg/L 48
		a) Aquatic acute toxicity : EC50 Algae > 0.13 mg/L 72
		a) Aquatic acute toxicity : LC50 Fish > 0.055 mg/L 96
		a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss > 0.055 mg/L 96h ECHA
ethyl alcohol; ethanol	CAS: 64-17-5 - EINECS: 200-578-6 - INDEX: 603-002-00-5	a) Aquatic acute toxicity : NOEC Daphnia 9.6 mg/L
		a) Aquatic acute toxicity : LC50 Daphnia 5012 mg/L 48
		a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 12 mL/L 96h EPA
		a) Aquatic acute toxicity : LC50 Fish Pimephales promelas > 100 mg/L 96h EPA
		a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 13400 mg/L 96h EPA
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna 9268 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 2 mg/L 48h EPA
		d) Terrestrial toxicity : LC50 Worm Eisenia foetida 0.1 mg/cm2 48h IUCLID

a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 12 mL/L 96h EPA - 12.0 - 16.0 static

a) Aquatic acute toxicity : LC50 Fish Pimephales promelas > 100 mg/L 96h EPA - static

a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 13400 mg/L 96h EPA - 13400 - 15100 flow-through

a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna 9268 mg/L 48h IUCLID - 9268 - 14221

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 2 mg/L 48h EPA - Static

d) Terrestrial toxicity : LC50 Worm Eisenia foetida 0.1 mg/cm2 48h IUCLID - 0.1 - 1 filter paper

cyclohexylamine; 1-aminocyclohexane

CAS: 108-91-8 -
EINECS: 203-629-0 - INDEX:
612-050-00-6

a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 44 mg/L 96h IUCLID

a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio = 470 mg/L 96h IUCLID

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 20 mg/L 96h EPA

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 20 mg/L 96h IUCLID

toluene; 1-Methylbenzene

CAS: 108-88-3 -
EINECS: 203-625-9 - INDEX:
601-021-00-3

a) Aquatic acute toxicity : EC50 Algae = 134 mg/L 3

a) Aquatic acute toxicity : LC50 Fish = 5.5 mg/L 96h EPA

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 5.46 mg/L 48h EPA

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata > 433 mg/L 96h IUCLID

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 12.5 mg/L 72h EPA

b) Aquatic chronic toxicity : NOEC Daphnia = 0.74 mg/L - 7 days

Persistence and degradability

Component

toluene; 1-Methylbenzene

Persitence/Degradability:

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: NA1993

ADR-UN number: N/A

IATA-Un number: -

IMDG-Un number: -

UN proper shipping name

DOT-Proper Shipping Name: Combustible liquid, n.o.s. (ethanol)

ADR-Shipping Name: N/A

IATA-Technical name: - (ethanol)

IMDG-Technical name: - (ethanol)

Transport hazard class(es)

DOT-Hazard Class: Comb liq

ADR-Class: N/A

IATA-Class: -

IMDG-Class: -

Packing group

DOT Packing Group: III

ADR-Packing Group: N/A

IATA-Packing group: -

IMDG-Packing group: -

Environmental hazards

Marine pollutant: No

Environmental Pollutant: Not Applicable

DOT-RQ: Yes DOT-RQ - Quantity: 1000 lbs

Transport in bulk according to IMO instruments

N.A.

Not Applicable

Special precautions

Department of Transportation (DOT):

DOT-Special Provision(s): 148, IB3, T1, TP1

DOT-Label(s): -

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: N/A

Road and Rail (ADR-RID) :

ADR-Label: N/A

ADR-Hazard identification number: N/A

ADR-Transport category (Tunnel restriction code): N/A

Air (IATA) :

IATA-Passenger Aircraft: -

IATA-Cargo Aircraft: -

IATA-Label: -

IATA-Subsidiary hazards: -

IATA-Erg: -

IATA-Special Provisioning: -

Sea (IMDG) :

IMDG-Stowage and handling: -

IMDG-Segregation: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: -

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:

triethoxycaprylsilane; n-Octyltriethoxysilane is listed in TSCA Section 8b

methyltris(cyclohexylamino)silane; N,N',N''-tricyclohexyl-1-methylsilanetriamine is listed in TSCA Section 8b

ethyl alcohol; ethanol is listed in TSCA Section 8b

cyclohexylamine; 1-aminocyclohexane is listed in TSCA Section 8b

toluene; 1-Methylbenzene is listed in TSCA Section 8b

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

cyclohexylamine; 1-aminocyclohexane

Section 304 - Hazardous substances:

toluene; 1-Methylbenzene

Section 313 - Toxic chemical list:

toluene; 1-Methylbenzene

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

toluene; 1-Methylbenzene Reportable quantity: 1000 pounds

CAA - Clean Air Act

CAA listed substances:

cyclohexylamine; 1-aminocyclohexane is listed in CAA Section 112(b) - HON

toluene; 1-Methylbenzene is listed in CAA Section 112(b) - HAP Section 112(b) - HON

CWA - Clean Water Act

CWA listed substances:

toluene; 1-Methylbenzene is listed in CWA Section 307 Section 311

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

ethyl alcohol; ethanol Listed as carcinogen and reproductive toxicant

toluene; 1-Methylbenzene Listed as reproductive toxicant

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

ethyl alcohol; ethanol

cyclohexylamine; 1-aminocyclohexane

toluene; 1-Methylbenzene

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

ethyl alcohol; ethanol

cyclohexylamine; 1-aminocyclohexane

toluene; 1-Methylbenzene

New Jersey Right to know

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

ethyl alcohol; ethanol

cyclohexylamine; 1-aminocyclohexane

toluene; 1-Methylbenzene

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: 10/28/2025 - version 4

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
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life
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/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
A.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
A.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
A.2/2	Skin Irrit. 2	Skin irritation, Category 2
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.9/2	STOT RE 2	Specific target organ toxicity following repeated exposure, Category 2
B.6/2	Flam. Liq. 2	Flammable Liquids — Category 2
B.6/3	Flam. Liq. 3	Flammable Liquids — Category 3
US-HAE/A2	Aquatic Acute 2	Acute 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:

- 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
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION
- 16. OTHER INFORMATION