

Safety Data Sheet dated 6/10/2022, version 4.0

This version cancels and substitutes any previous version

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification:

Trade name: UKLIN

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use:

Odor remover treatment for urine

1.3. Details of the supplier of the safety data sheet

Company:

ERRECOM SPA

Via Industriale, 14

Corzano (BS) Italy

Tel. +39 030/9719096

Competent person responsible for the safety data sheet:

lab@errecom.it

1.4. Emergency telephone number

+39 02-6610-1029 Poison Control Center Niguarda Ca' Granda - Milano - ITALY

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:

None

Hazard statements:

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances





N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Safety Data Sheet
UKLIN

Qty	Name	Ident. Number	Classification
>= 2.5% - < 5%	ethanediol	Index number: 603-027-00-1 CAS: 107-21-1 EC: 203-473-3 REACH No.: 01-21194568 16-28-XXXX	3.1/4/Oral Acute Tox. 4 H302 3.9/2 STOT RE 2 H373
>= 2.5% - < 5%	ethanol	Index number: 603-002-00-5 CAS: 64-17-5 EC: 200-578-6 REACH No.: 01-21194576 10-43-XXXX	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319
>= 0.5% - < 1%	n-ethyl-n-soya morpholinium ethosulphate	CAS: 61791-34-2 EC: 263-167-0 REACH No.: 01-21207636 56-43-XXXX	3.1/4/Oral Acute Tox. 4 H302 3.2/1A Skin Corr. 1A H314 3.3/1 Eye Dam. 1 H318 4.1/A1 Aquatic Acute 1 H400 M=10. 4.1/C1 Aquatic Chronic 1 H410 M=1. Specific Concentration Limits: C >= 50%: Skin Corr. 1A H314 10% <= C < 50%: Skin Irrit. 2 H315 C >= 5%: Eye Dam. 1 H318 1% <= C < 5%: Eye Irrit. 2 H319
>= 0.5% - < 1%	propan-2-ol	Index number: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH No.: 01-21194575 58-25-XXXX	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336
>= 0.05% - < 0.1%	Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides	CAS: 85409-23-0 EC: 287-090-7 REACH No.: 01-21207718 12-51-XXXX	3.1/4/Oral Acute Tox. 4 H302 3.2/1B Skin Corr. 1B H314 3.3/1 Eye Dam. 1 H318 4.1/A1 Aquatic Acute 1 H400 M=10. 4.1/C1 Aquatic Chronic 1 H410 M=1.
>= 0.05% - < 0.1%	didecyldimethylammonium chloride	Index number: 612-131-00-6 CAS: 7173-51-5 EC: 230-525-2 REACH No.: 01-21199459 87-15-XXXX	3.1/3/Oral Acute Tox. 3 H301 3.2/1B Skin Corr. 1B H314 3.3/1 Eye Dam. 1 H318 4.1/A1 Aquatic Acute 1 H400 M=10. 4.1/C2 Aquatic Chronic 2 H411 M=1.
>= 0.05% -	Quaternary ammonium compounds,	CAS: 68424-85-1 EC: 270-325-2	3.1/4/Oral Acute Tox. 4 H302

< 0.1%	benzyl-C12-16-alkyldi methyl, chlorides	REACH No.: 01-21199651 80-41-XXXX	 3.2/1B Skin Corr. 1B H314  3.3/1 Eye Dam. 1 H318  4.1/A1 Aquatic Acute 1 H400 M=10.  4.1/C1 Aquatic Chronic 1 H410 M=1.
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SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

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

4.2. Most important symptoms and effects, both acute and delayed

None

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

- Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up
Wash with plenty of water.
- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. 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.
Advice on general occupational hygiene:
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities
Keep container tightly closed. To maintain product quality, do not store in heat or direct sunlight. Keep in a dry, cool and well-ventilated place.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Adequately ventilated premises.
- 7.3. Specific end use(s)
Information not available.

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters
ethanediol - CAS: 107-21-1
EU - TWA(8h): 52 mg/m³, 20 ppm - STEL: 104 mg/m³, 40 ppm - Notes: Skin
VLEP - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes:
skin
AGW - TWA(8h): 26 mg/m³, 10 ppm - STEL(15min): 52 mg/m³, 20 ppm - Notes: Skin
MAK - TWA(8h): 26 mg/m³, 10 ppm - STEL(15min): 52 mg/m³, 20 ppm - Notes: Skin
VLA - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes: Skin
VLEP - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes:
Skin
WEL - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes: skin
TLV - TWA(8h): 125 mg/m³, 50 ppm - STEL(15min): 125 mg/m³, 50 ppm
GVI/KGVI - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes:
Skin
TLV - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes: Skin
NDS - TWA(8h): 15 mg/m³ - STEL(15min): 20 mg/m³
TLV - TWA(8h): 50 mg/m³, 19.4 ppm - STEL(15min): 100 mg/m³, 38.8 ppm - Notes:
skin
ESD - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes: Skin
OEL - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 ppm - Notes: Skin
AK - TWA: 52 mg/m³ - STEL: 104 mg/m³
- ethanol - CAS: 64-17-5
ACGIH - STEL: 1000 ppm - Notes: A3 - URT irr

AGW - TWA(8h): 380 mg/m³, 200 ppm - STEL(15min): 1520 mg/m³, 800 ppm
MAK - TWA(8h): 380 mg/m³, 200 ppm - STEL(15min): 1520 mg/m³, 800 ppm
VLA - STEL(15min): 1910 mg/m³, 1000 ppm
VLEP - TWA(8h): 1900 mg/m³, 1000 ppm - STEL(15min): 9500 mg/m³, 5000 ppm
WEL - TWA(8h): 1920 mg/m³, 1000 ppm
TLV (GR) - TWA(8h): 1900 mg/m³, 1000 ppm
GVI - TWA(8h): 1900 mg/m³, 1000 ppm
NDS - TWA(8h): 1900 mg/m³
NPHV - TWA(8h): 960 mg/m³, 500 ppm - STEL(15min): 1920 mg/m³
TLV - TWA(8h): 1000 mg/m³
TLV (CZ) - TWA(8h): 1000 mg/m³, 522 ppm - STEL(15min): 3000 mg/m³, 1566 ppm
TLV (EST) - TWA(8h): 1000 mg/m³, 500 ppm - STEL(15min): 1900 mg/m³, 1000 ppm

propan-2-ol - CAS: 67-63-0
ACGIH - TWA: 200 ppm - STEL: 400 ppm
MAK - TWA(8h): 500 mg/m³, 200 ppm - STEL(15min): 1000 mg/m³, 400 ppm
VLA - TWA(8h): 500 mg/m³, 200 ppm - STEL(15min): 1000 mg/m³, 400 ppm
VLEP - STEL(15min): 980 mg/m³, 400 ppm
WEL - TWA(8h): 999 mg/m³, 400 ppm - STEL(15min): 1250 mg/m³, 500 ppm
TLV - TWA(8h): 980 mg/m³, 400 ppm - STEL(15min): 1225 mg/m³, 500 ppm
NDS - TWA(8h): 900 mg/m³ - STEL(15min): 1200 mg/m³
NPHV - TWA(8h): 500 mg/m³, 200 ppm - STEL(15min): 1000 mg/m³
MV - TWA(8h): 500 mg/m³, 200 ppm - STEL(15min): 2000 mg/m³, 800 ppm
GVI - TWA(8h): 999 mg/m³, 400 ppm - STEL(15min): 1250 mg/m³, 500 ppm
TLV (CZ) - TWA(8h): 500 mg/m³, 200 ppm - STEL(15min): 1000 mg/m³, 400 ppm
TLV (EST) - TWA(8h): 350 mg/m³, 150 ppm - STEL(15min): 600 mg/m³, 250 ppm

DNEL Exposure Limit Values

ethanediol - CAS: 107-21-1
Worker Industry: 35 mg/m³ - Consumer: 7 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Industry: 106 mg/m³ - Consumer: 53 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

ethanol - CAS: 64-17-5
Worker Industry: 1900 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 950 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 343 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

propan-2-ol - CAS: 67-63-0
Consumer: 26 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Industry: 500 mg/m³ - Consumer: 89 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 888 mg/kg - Consumer: 319 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides - CAS: 85409-23-0
Worker Professional: 1 mg/m³ - Consumer: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

didecyldimethylammonium chloride - CAS: 7173-51-5
Worker Professional: 5.39 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 5.39 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Professional: 1.55 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 1.55 mg/kg - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides - CAS: 68424-85-1

Worker Professional: 3.96 mg/m³ - Consumer: 1.64 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 5.7 mg/kg - Consumer: 3.4 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

ethanediol - CAS: 107-21-1

Target: Fresh Water - Value: 10 mg/L

Target: Marine water - Value: 1 mg/L

Target: Freshwater sediments - Value: 37 mg/kg

Target: Marine water sediments - Value: 3.7 mg/kg

Target: Aquatic, periodic release - Value: 10 mg/L

Target: Microorganisms in sewage treatments - Value: 199.5 mg/L

Target: Soil (agricultural) - Value: 1.53 mg/kg

ethanol - CAS: 64-17-5

Target: Fresh Water - Value: 0.96 mg/L

Target: Marine water - Value: 0.79 mg/L

Target: Freshwater sediments - Value: 36 mg/kg

Target: Marine water sediments - Value: 2.9 mg/kg

Target: Aquatic, periodic release - Value: 2.75 mg/L

Target: Microorganisms in sewage treatments - Value: 580 mg/L

Target: Secondary poisoning - Value: 0.72 mg/kg

Target: Soil (agricultural) - Value: 0.63 mg/kg

propan-2-ol - CAS: 67-63-0

Target: Fresh Water - Value: 140.9 mg/L

Target: Marine water - Value: 140.9 mg/L

Target: Freshwater sediments - Value: 552 mg/kg

Target: Aquatic, periodic release - Value: 140.9 mg/L

Target: Microorganisms in sewage treatments - Value: 2251 mg/L

Target: Marine water sediments - Value: 552 mg/kg

Target: Soil (agricultural) - Value: 28 mg/kg

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides - CAS: 85409-23-0

Target: Fresh Water - Value: 0.000415 mg/L

Target: Marine water - Value: 0.00042 mg/L

Target: Microorganisms in sewage treatments - Value: 0.21 mg/L

Target: Freshwater sediments - Value: 6.81 mg/kg

Target: Marine water sediments - Value: 0.681 mg/kg

Target: Soil (agricultural) - Value: 1.36 mg/kg

didecyldimethylammonium chloride - CAS: 7173-51-5

Target: Fresh Water - Value: 0.002 mg/L

Target: Marine water - Value: 0.0002 mg/L

Target: Freshwater sediments - Value: 2.82 mg/kg

Target: Marine water sediments - Value: 0.28 mg/kg

Target: Microorganisms in sewage treatments - Value: 0.595 mg/L

Target: Soil (agricultural) - Value: 1.4 mg/kg

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides - CAS: 68424-85-1

Target: Fresh Water - Value: 0.001 mg/L

Target: Marine water - Value: 0.001 mg/L

Target: Freshwater sediments - Value: 12.27 mg/kg - Notes:: dry weight
 Target: Marine water sediments - Value: 13.09 mg/kg - Notes:: dry weight
 Target: Microorganisms in sewage treatments - Value: 0.4 mg/L
 Target: Soil (agricultural) - Value: 7 mg/kg - Notes:: dry weight

8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Physical state:	Liquid	--	--
Colour:	Red	--	--
Odour:	perfumed	--	--
Melting point/freezing point:	N.A.	--	--
Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	N.A.	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
pH:	7.5	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	total	--	--
Solubility in oil:	insoluble	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	1.00 g/mL (+20 °C/+68 °F)	ASTM-D4052	--
Relative vapour density:	N.A.	--	--

Particle characteristics:

Particle size:	N.A.	--	--
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9.2. Other information

No other relevant information

SECTION 10: Stability and reactivity

- 10.1. Reactivity
Stable under normal conditions
- 10.2. Chemical stability
Stable under normal conditions
- 10.3. Possibility of hazardous reactions
None
- 10.4. Conditions to avoid
Stable under normal conditions.
- 10.5. Incompatible materials
None in particular.
- 10.6. Hazardous decomposition products
No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological information of the product:

- a) acute toxicity
Not classified
Based on available data, the classification criteria are not met
- b) skin corrosion/irritation
Not classified
Based on available data, the classification criteria are not met
- c) serious eye damage/irritation
Not classified
Based on available data, the classification criteria are not met
- 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
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 of the main substances found in the product:

ethanediol - CAS: 107-21-1

- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 1660 mg/kg

- Test: LD50 - Route: Skin - Species: Rabbit 9530 mg/kg
Test: LD50 - Route: Skin - Species: Rat 3500 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 2.5 mg/L - Duration: 6 h
ethanol - CAS: 64-17-5
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
Test: LC50 - Route: Inhalation - Species: Mouse > 20 mg/L - Duration: 4h
- n-ethyl-n-soya morpholinium ethosulphate - CAS: 61791-34-2
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 1.670 mg/kg
- b) skin corrosion/irritation:
Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive
- c) serious eye damage/irritation:
Test: Eye Corrosive - Route: Eyes - Species: bovine cornea Positive - Source: OECD TG 437 - Notes: Substance concentration: 35%
- e) germ cell mutagenicity:
Test: Ames test - Species: Salmonella Typhimurium Negative - Source: OECD TG 471
- Notes: Metabolic activation: with and without
- propan-2-ol - CAS: 67-63-0
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 4710 mg/kg
Test: LD50 - Route: Skin - Species: Rat 12800 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 72.6 mg/L - Duration: 4h
Test: LD50 - Route: Skin - Species: Rabbit 6290 mg/kg
- Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides - CAS: 85409-23-0
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 344 mg/kg - Notes: Method: comparable to OECD 401 - data from similar substance
Test: LD50 - Route: Skin - Species: Rabbit 2300 mg/kg - Notes: data from similar substance
- e) germ cell mutagenicity:
Test: Ames test - Route: In vitro - Species: Salmonella Typhimurium Negative - Notes: Mutagenicity with or without metabolic activation. BPL: yes
Test: chromosomal aberration test - Route: In vitro - Species: mammalian cells Negative - Source: OECD TG 473 - Notes: BPL: yes - data from similar substance
Test: Mutagenesis - Route: In vitro Negative - Notes: BPL: yes - data from similar substance
- g) reproductive toxicity:
Test: NOAEL - Route: Oral - Species: Rat 51 mg/kg - Notes: BPL: yes - Test type: Bigenerational study.
- didecyldimethylammonium chloride - CAS: 7173-51-5
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 238 mg/kg - Source: Method: OECD Test Guideline 401
Test: LD50 - Route: Skin - Species: Rabbit 3342 mg/kg
- b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive - Source: Method: OECD Test Guideline 404 - Notes: Exposure time: 3 min
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin - Species: Guinea pig Negative - Source: Method: US-EPA, OECD TG 406 - Notes: Buehler Test
- e) germ cell mutagenicity:

Test: Ames test - Species: Salmonella Typhimurium Negative - Source: Method: OECD Test Guideline 471 - Notes: Metabolic activation
Test: chromosomal aberration test - Route: In vitro - Species: Chinese hamster ovary cells Negative - Notes: Metabolic activation
Test: Mutagenesis - Species: Chinese hamster ovary cells Negative - Notes: Metabolic activation
Test: chromosomal aberration test - Route: Oral - Species: Rat Negative 600 mg/kg - Source: Method: OECD Test Guideline 475 - Notes: Chromosome aberration test in vivo

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides - CAS: 68424-85-1

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 344 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit 3412 mg/kg - Notes: Method: OPPTS 870.1200

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive - Duration: 4h - Source: Method: DOT

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Route: Skin - Species: Guinea pig Negative - Source: Buehler Test OECD TG 406

e) germ cell mutagenicity:

Test: Ames test - Route: In vitro - Species: Salmonella Typhimurium Negative - Source: OECD TG 471 - Notes: Metabolic activation: yes - BPL: yes
Test: chromosomal aberration test - Route: In vitro - Species: Human lymphocytes Negative - Source: OECD TG 473 - Notes: Metabolic activation: yes
Test: Mutagenesis - Route: In vitro - Species: Chinese hamster ovary cells Negative - Source: OECD TG 476 - Notes: Metabolic activation: yes - BPL: yes
Test: Genotoxicity - Route: In vitro - Species: rat hepatocytes Negative - Source: Unscheduled DNA synthesis test OECD TG 482 - Notes: BPL: yes

g) reproductive toxicity:

Test: NOAEL - Route: Oral - Species: Rat Negative 54 mg/kg - Source: OECD TG 416 - Notes: Doses: 0-300-1000-2000 ppm. General toxicity F1: 54-86 mg / kg, general toxicity

ethanediol - CAS: 107-21-1

LD50 (RABBIT) ORAL: 5017 mg/kg BW

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

SECTION 12: Ecological information

12.1. Toxicity

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

The product is classified: Aquatic Chronic 3 - H412

ethanediol

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 72860 mg/L - Duration h: 96 - Notes: Species: Pimephales promelas

Endpoint: EC50 - Species: Daphnia > 100 mg/L - Duration h: 48 - Notes: Species: Daphnia magna

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish 15830 mg/L - Duration h: 168 - Notes: Species:
Pimephales promelas

Endpoint: NOEC - Species: Daphnia 8590 mg/L - Duration h: 168 - Notes: Species:
Daphnia magna

ethanol

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 11200 mg/L - Duration h: 96

Endpoint: EC50 - Species: Daphnia > 12300 mg/L - Duration h: 48 - Notes: Species:
Daphnia magna

Endpoint: EC50 - Species: Algae > 275 mg/L - Duration h: 72 - Notes: Species:
Chlorella vulgaris

n-ethyl-n-soya morpholinium ethosulphate

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia 0.09 mg/L - Duration h: 48 - Notes: OECD TG 202
- Species: Daphnia magna - Test type: static test

e) Plant toxicity:

Endpoint: EC50 - Species: Algae 0.021 mg/L - Duration h: 72 - Notes: OECD TG 201 -
Species: Pseudokirchneriella subcapitata - Test type: growth inhibitor

Endpoint: NOEC - Species: Algae 0.016 mg/L - Duration h: 72 - Notes: OECD TG 201 -
Species: Pseudokirchneriella subcapitata - Test type: growth inhibitor

propan-2-ol

a) Aquatic acute toxicity:

Endpoint: EC0 - Species: Fish 10000 mg/L - Duration h: 48 - Notes: Pimephales
promelas

Endpoint: LC50 - Species: Fish > 1400 mg/L - Duration h: 96 - Notes: Lepomis
macrochirus

Endpoint: LC50 - Species: Fish 6550 mg/L - Duration h: 96 - Notes: Pimephales
promelas

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia > 0.00415 mg/L - Duration h: 504 - Notes:
Method: EPA OPP 72-4 - BPL: yes

didecyldimethylammonium chloride

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 0.19 mg/L - Duration h: 96 - Notes: Species:
Pimephales promelas (fathead minnow) Acute toxicity Method: US-EPA

Endpoint: EC50 - Species: Daphnia 0.062 mg/L - Duration h: 48 - Notes: Species:
Daphnia magna (Water flea) Immobilization Method: EPA-FIFRA

Endpoint: ErC50 - Species: Algae 0.026 mg/L - Duration h: 96 - Notes: Species:
Pseudokirchneriella subcapitata (green algae) Growth inhibition Method: OECD Test
Guideline 201

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish 0.032 mg/L - Duration h: 816 - Notes: Species: Danio
rerio (zebra fish) Chronic toxicity Method: OECD Test Guideline 210

Endpoint: NOEC - Species: Daphnia 0.014 mg/L - Duration h: 504 - Notes: Species:
Daphnia magna (Water flea)

c) Bacteria toxicity:

Endpoint: EC50 - Species: Activated sludge 11 mg/L - Duration h: 3 - Notes: Species:
activated sludge Respiration inhibition Method: OECD Test Guideline 209

d) Terrestrial toxicity:

Endpoint: NOEC - Species: earthworms > 1000 mg/kg - Duration h: 336 - Notes:
Species: Eisenia fetida Method: OECD Test Guideline 207

e) Plant toxicity:

Endpoint: EC50 - Species: Terrestrial plants 283 mg/kg - Duration h: 336 - Notes: 283 -
1670 mg/kg Growth inhibition Method: OECD Test Guideline 208

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 0.28 mg/L - Duration h: 96 - Notes: Species:

Pimephales promelas (fathead minnow) Acute Toxicity Method: US-EPA

Endpoint: EC50 - Species: Daphnia 0.016 mg/L - Duration h: 48 - Notes: Species:

Daphnia magna (Water flea) Immobilization Method: OECD Test Guideline 202

Endpoint: ErC50 - Species: Algae 0.049 mg/L - Duration h: 72 - Notes: Species:

Pseudokirchneriella subcapitata (green algae)

Cell multiplication inhibition test Method: OECD Test Guideline 201

Endpoint: NOEC - Species: Fish 0.456 mg/L - Duration h: 96 - Notes: Species: Lepomis macrochirus

Endpoint: LC50 - Species: Fish 0.515 mg/L - Duration h: 96 - Notes: Species: Lepomis macrochirus

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish 0.0322 mg/L - Duration h: 816 - Notes: Species:

Pimephales promelas (fathead minnow) Early-life Stage Method: EPA-FIFRA

Endpoint: NOEC - Species: Daphnia 0.00415 mg/L - Duration h: 504 - Notes: Species:

Daphnia magna (Water flea) Reproduction Test Method: EPA-FIFRA

c) Bacteria toxicity:

Endpoint: EC50 - Species: Activated sludge 7.75 mg/L - Duration h: 3 - Notes: OECD Test Guideline 209

d) Terrestrial toxicity:

Endpoint: LC50 - Species: earthworms 7070 mg/kg - Duration h: 336 - Notes: Species:

Eisenia fetida Method: OECD Test Guideline 207

Endpoint: EC50 - Species: Microflora of the soil > 1000 mg/kg - Duration h: 672 -

Notes: OECD Test Guideline 216

e) Plant toxicity:

Endpoint: EC50 - Species: Terrestrial plants 277 mg/kg - Duration h: 336 - Notes:

Growth inhibition Method: OECD Test Guideline 208

12.2. Persistence and degradability

ethanediol - CAS: 107-21-1

Biodegradability: Readily biodegradable - Test: Solubility in water - Notes: 1000 - 10000 mg/L

ethanol - CAS: 64-17-5

Biodegradability: Readily biodegradable - Test: Solubility in water - Notes: 1000 - 10000 mg/L

propan-2-ol - CAS: 67-63-0

Biodegradability: Readily biodegradable

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides - CAS: 85409-23-0

Biodegradability: Readily biodegradable - Test: OECD 301 B - Duration: 28 d - %: 95.5 - Notes: data on similar substances

didecyldimethylammonium chloride - CAS: 7173-51-5

Biodegradability: Readily biodegradable - Test: Modified Sturm Test - Duration: 28 d - %: 72 - Notes: Method: OECD Test Guideline 301B, concentration: 10 mg/L

Test: Die-Away Test - Duration: 28 d - %: 93.3 - Notes: Concentration: 0,016 mg/L

Test: OECD Confirmatory Test: - Duration: 24 - 70 d - %: 91 - Notes: Method: OECD Test Guideline 303 A

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides - CAS: 68424-85-1

Test: OECD Confirmatory Test: - %: 90 - Notes: Method: OECD Test Guideline 303 A

Test: Modified SCAS Test - Duration: 7 d - %: 99 - Notes: Method: OECD Test Guideline 302 A

Biodegradability: Readily biodegradable - Test: CO2 Evolution Test - Duration: 28 d - %: 95.5 - Notes: Method: OECD Test Guideline 301B. Concentration 5 mg / L

- 12.3. Bioaccumulative potential
ethanediol - CAS: 107-21-1
Bioaccumulation: Very low bioaccumulative - Test: Kow - Partition coefficient -1.93 -
Notes: 25 °C
ethanol - CAS: 64-17-5
Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.350000-
propan-2-ol - CAS: 67-63-0
Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.05
Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides -
CAS: 85409-23-0
Test: log Pow - Notes: 2.48 (20 °C) calculation method
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides - CAS:
68424-85-1
Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentration factor -
Duration: 35 d - Notes: BCF: 79 - Concentration: 0,076 mg/L
Test: log Pow - Notes: 2.75 (20 °C) - Method: OECD TG 107 - GLP: yes
- 12.4. Mobility in soil
ethanediol - CAS: 107-21-1
Mobility in soil: Mobile - Notes: Source: bibliography
didecyldimethylammonium chloride - CAS: 7173-51-5
Mobility in soil: Mobile - Notes: Method: US-EPA
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides - CAS:
68424-85-1
Mobility in soil: Not mobile - Test: Koc 282624 - Notes: L/kg Kd: 13630, log Kd: 3,13 -
Method: OECD TG 106
- 12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None
- 12.6. Endocrine disrupting properties
No endocrine disruptor substances present in concentration $\geq 0.1\%$
- 12.7. Other adverse effects
None

SECTION 13: Disposal considerations

- 13.1. Waste treatment methods
Recover if possible. In so doing, comply with the local and national regulations currently in
force.

SECTION 14: Transport information

- 14.1. UN number or ID number
Not classified as dangerous in the meaning of transport regulations.
- 14.2. UN proper shipping name
N.A.
- 14.3. Transport hazard class(es)
N.A.
- 14.4. Packing group
N.A.
- 14.5. Environmental hazards
ADR-Environmental Pollutant: No
IMDG-Marine pollutant: No
- 14.6. Special precautions for user
N.A.

14.7. Maritime transport in bulk according to IMO instruments
N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2020/878
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restriction 40

Restrictions related to the substances contained:

Restriction 75

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

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H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H315 Causes skin irritation.
 H336 May cause drowsiness or dizziness.
 H301 Toxic if swallowed.
 H411 Toxic to aquatic life with long lasting effects.

Hazard class and hazard category	Code	Description
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Acute Tox. 3	3.1/3/Oral	Acute toxicity (oral), Category 3
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2020/878. Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Aquatic Chronic 3, H412	Calculation method

This document was prepared by a competent person who has received appropriate training.
 Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
 SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

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

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ATE: Acute Toxicity Estimate
 ATEmix: Acute toxicity Estimate (Mixtures)
 CAS: Chemical Abstracts Service (division of the American Chemical Society).
 CLP: Classification, Labeling, Packaging.

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DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
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).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.