

Safety Data Sheet

POWER CLEAN IN



Safety Data Sheet dated 27/6/2022, version 9.0

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: POWER CLEAN IN

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

Recommended use:

HIGH PRESSURE CLEANSER FOR EVAPORATORS

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)

 Danger, Aerosols 1, Extremely flammable aerosol. Pressurized container: may burst if heated.

 Warning, Eye Irrit. 2, Causes serious eye irritation.

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:



Danger

Hazard statements:

H222, H229 Extremely flammable aerosol. Pressurized container: may burst if heated.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

Special Provisions:

None

Contains

1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)-ethanone: May produce an allergic reaction.

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:

Qty	Name	Ident. Number	Classification
$\geq 20\%$ - $< 25\%$	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
$\geq 20\%$ - $< 25\%$	propane	Index number: 601-003-00-5 CAS: 74-98-6 EC: 200-827-9 REACH No.: 01-21194869 44-21-XXXX	2.2/1A Flam. Gas 1A H220 2.5 Press. Gas H280
$\geq 5\%$ - $< 7\%$	butane	Index number: 601-004-00-0 CAS: 106-97-8 EC: 203-448-7 REACH No.: 01-21194746 91-32-XXXX	2.2/1A Flam. Gas 1A H220 2.5 Press. Gas H280
$\geq 2.5\%$ - $< 5\%$	isobutane	Index number: 601-004-00-0 CAS: 75-28-5 EC: 200-857-2 REACH No.: 01-21194853 95-27-XXXX	2.2/1A Flam. Gas 1A H220 2.5 Press. Gas H280
$\geq 2.5\%$ - $< 5\%$	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

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>= 0.1% - < 0.25%	Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides	CAS: 308062-28-4 EC: 931-292-6 REACH No.: 01-21194900 61-47-XXXX	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  4.1/A1 Aquatic Acute 1 H400  4.1/C2 Aquatic Chronic 2 H411
>= 0.05% - < 0.1%	N, N-didecyl-N-methyl-poly (oxyethyl) ammonium propionate	CAS: 94667-33-1 EC: 619-057-3 REACH No.: 01-21199503 27-36-XXXX	 3.1/4/Oral Acute Tox. 4 H302  3.2/1B Skin Corr. 1B H314  4.1/A1 Aquatic Acute 1 H400 M=10.  4.1/C1 Aquatic Chronic 1 H410 M=10.
>= 0.01% - < 0.05%	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
>= 0.0001% - < 0.01%	propionic acid ... %	Index number: 607-089-00-0 CAS: 79-09-4 EC: 201-176-3 REACH No.: 01-21194869 71-24-XXXX	 2.6/3 Flam. Liq. 3 H226  3.2/1B Skin Corr. 1B H314 Specific Concentration Limits: C >= 25%: Skin Corr. 1B H314 10% <= C < 25%: Skin Irrit. 2 H315 10% <= C < 25%: Eye Irrit. 2 H319 C >= 10%: STOT SE 3 H335

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

After contact with skin, wash immediately with soap and plenty of water.

Wash contaminated clothing before using them.

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 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

No information available.

4.3. 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:

No information available.

SECTION 5: Firefighting measures

- 5.1. Extinguishing media
 - Suitable extinguishing media:
 - Alcohol resistant foam fire extinguisher.
 - CO2 or Dry chemical fire extinguisher.
 - 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 all sources of ignition.
 - 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
 - Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.
 - Keep away from food, drink and feed.
 - Incompatible materials:
 - See subsection 10.5

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Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Information not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

propane - CAS: 74-98-6

ACGIH - Notes: (D, EX) - Asphyxia

butane - CAS: 106-97-8

ACGIH - STEL: 1000 ppm - Notes: (EX) - CNS impair

isobutane - CAS: 75-28-5

ACGIH - STEL: 1000 ppm - Notes: (EX) - CNS impair

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

ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair

AGW - TWA(8h): 500 mg/m³, 200 ppm - STEL(15min): 1000 mg/m³, 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

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

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

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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
propionic acid ... % - CAS: 79-09-4
EU - TWA(8h): 31 mg/m³, 10 ppm - STEL: 62 mg/m³, 20 ppm
ACGIH - TWA(8h): 10 ppm - Notes: Eye, skin and URT irr

DNEL Exposure Limit Values
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
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides - CAS: 308062-28-4
Worker Professional: 11 mg/kg - Consumer: 5.5 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 6.2 mg/m³ - Consumer: 1.53 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 0.44 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
N, N-didecyl-N-methyl-poly (oxyethyl) ammonium propionate - CAS: 94667-33-1
Worker Industry: 0.5 mg/m³ - Consumer: 0.12 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 0.7 mg/kg - Consumer: 0.35 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 0.35 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Frequency: Long Term, systemic effects
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

PNEC Exposure Limit Values
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

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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: Secondary poisoning - Value: 160 mg/kg
Target: Soil (agricultural) - Value: 28 mg/kg
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides - CAS: 308062-28-4
Target: Fresh Water - Value: 0.034 mg/L
Target: Marine water - Value: 0.003 mg/L
Target: Freshwater sediments - Value: 5.24 mg/kg
Target: Marine water sediments - Value: 0.524 mg/kg
Target: Soil (agricultural) - Value: 1.02 mg/kg
Target: Aquatic, periodic release - Value: 0.0335 mg/L
Target: Microorganisms in sewage treatments - Value: 24 mg/kg
N, N-didecyl-N-methyl-poly (oxyethyl) ammonium propionate - CAS: 94667-33-1
Target: Fresh Water - Value: 0.001 mg/L
Target: Microorganisms in sewage treatments - Value: 0.118 mg/L
Target: Freshwater sediments - Value: 5.3 mg/kg
Target: Soil (agricultural) - Value: 2.83 mg/kg
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

8.2. Exposure controls

Eye protection:

Protective airtight goggles (ref. Standard EN 166).

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

One-time gloves.

Suitable material:

NR (natural rubber, natural latex).

NBR (nitrile rubber).

Material thickness: minimum 0.12 mm.

Break through time : > 480 min

Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

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:	Colourless	--	--
Odour:	characteristic 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:	<0 ° C	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
pH:	9.5	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	partial	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	0.8 g/mL (20 °C / 68°F)	--	--
Relative vapour density:	N.A.	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

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

Avoid overheating, electrostatic discharge and all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents.

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

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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
The product is classified: Eye Irrit. 2 H319
- 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:

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

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

Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides - CAS: 308062-28-4

- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 1064 mg/kg
Test: NOAEL - Route: Oral - Species: Rat 88 mg/kg/day
Test: LOAEL - Route: Skin - Species: Mouse 0.045 mg/cm²
- b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin Positive
- c) serious eye damage/irritation:
Test: Eye Irritant Positive
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin Negative

ethanediol - CAS: 107-21-1

- a) acute toxicity:

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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

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

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

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

Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 2.67 mg/L

Endpoint: EC50 - Species: Daphnia 3.1 mg/L

Endpoint: IC50 - Species: Algae 0.143 mg/L

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Algae 0.067 mg/L - Duration h: 72

N, N-didecyl-N-methyl-poly (oxyethyl) ammonium propionate

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 0.78 mg/L - Duration h: 96 - Notes: Acute Toxicity; Species: Danio rerio; Method: Guideline 203 OECD Test

Endpoint: LC50 - Species: Fish 0.63 mg/L - Duration h: 96 - Notes: Acute Toxicity; Species: Cyprinus carpio; Method: Guideline 203 OECD Test

Endpoint: LC50 - Species: Fish 0.52 mg/L - Duration h: 96 - Notes: Acute Toxicity; Species: Lepomis macrochirus; Method: Guideline 203 OECD Test

Endpoint: EC50 - Species: Daphnia 0.07 mg/L - Duration h: 48 - Notes: Immobilization; Species: Daphnia magna; Method: OECD TG 202

Endpoint: EbC50 - Species: Algae 0.15 mg/L - Duration h: 72 - Notes: Growth inhibitor; Species: Desmodesmus subspicatus; Method: OECD TG 201

c) Bacteria toxicity:

Endpoint: EC50 - Species: Bacteria 16.8 mg/L - Duration h: 3 - Notes: Inhibitor of respiration; Species: activated sludge; Method: OECD TG 209

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
- 12.2. Persistence and degradability
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
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides - CAS: 308062-28-4
Biodegradability: Readily biodegradable
N, N-didecyl-N-methyl-poly (oxyethyl) ammonium propionate - CAS: 94667-33-1
Biodegradability: Persistent and Biodegradable - Test: Zahn-Wellens test - Duration: 28 d - %: 80 - Notes: % Method: Guideline 302B OECD Test
Biodegradability: Persistent and Biodegradable - Test: Modified Sturm Test - Duration: 29 d - %: 34 - Notes: % Method: OECD TG 301 B
ethanediol - CAS: 107-21-1
Biodegradability: Readily biodegradable - Test: Solubility in water - Notes: 1000 - 10000 mg/L
- 12.3. Bioaccumulative potential
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
ethanediol - CAS: 107-21-1
Bioaccumulation: Very low bioaccumulative - Test: Kow - Partition coefficient -1.93 - Notes: 25 °C
- 12.4. Mobility in soil
ethanediol - CAS: 107-21-1
Mobility in soil: Mobile - Notes: Source: bibliography
- 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. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

- 14.1. UN number or ID number
ADR-UN number: 1950
IATA-Un number: 1950
IMDG-Un number: 1950
- 14.2. UN proper shipping name
ADR-Shipping Name: AEREOSOLS, flammable
IATA-Technical name: Aerosols, flammable

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IMDG-Technical name:	AEREOSOLS
14.3. Transport hazard class(es)	
ADR-Class:	2
ADR-Label:	2.1
IATA-Class:	2.1
IMDG-Class:	2.1
14.4. Packing group	
14.5. Environmental hazards	
IMDG-EMS:	F-D, S-U
14.6. Special precautions for user	
ADR-Transport category (Tunnel restriction code):	D
IATA-Passenger Aircraft:	Y203
IATA-Cargo Aircraft:	Y203
IMDG-Technical name:	AEREOSOLS
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

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Product belongs to category: P3b

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:

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H336 May cause drowsiness or dizziness.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- H314 Causes severe skin burns and eye damage.
- H410 Very toxic to aquatic life with long lasting effects.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H226 Flammable liquid and vapour.
- H335 May cause respiratory irritation.

Hazard class and hazard category	Code	Description
Flam. Gas 1A	2.2/1A	Flammable gas, Category 1A
Aerosols 1	2.3/1	Aerosol, Category 1
Press. Gas	2.5	Gases under pressure
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
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

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
Aerosols 1, H222, H229	On basis of test data
Eye Irrit. 2, H319	Calculation method
Aquatic Chronic 3, H412	Calculation method

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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.
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.