

Safety Data Sheet

NANO ALKALINE CLEANER



Safety Data Sheet dated 5/8/2021, version 2.0
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: NANO ALKALINE CLEANER

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

Recommended use:

Condensers cleaner

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)

 Warning, Skin Irrit. 2, Causes skin irritation.

 Danger, Eye Dam. 1, Causes serious eye damage.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statements:

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

P302+P352 IF ON SKIN: Wash with plenty of water.

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

Special Provisions:

None

Contains

1,2-benzisothiazolin-3-one: May produce an allergic reaction.

Alcohols, C12-15, branched and linear, ethoxylated

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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
$\geq 2.5\%$ - < 5%	Alcohols, C12-15, branched and linear, ethoxylated	CAS: 106232-83-1	3.1/4/Oral Acute Tox. 4 H302 3.3/1 Eye Dam. 1 H318 4.1/C3 Aquatic Chronic 3 H412
$\geq 2.5\%$ - < 5%	2-(2-butoxyethoxy)ethanol	Index number: 603-096-00-8 CAS: 112-34-5 EC: 203-961-6 REACH No.: 01-21194751 04-44-XXXX	3.3/2 Eye Irrit. 2 H319
$\geq 0.5\%$ - < 1%	sodium hydroxide	Index number: 011-002-00-6 CAS: 1310-73-2 EC: 215-185-5 REACH No.: 01-21194578 92-27-XXXX	2.16/1 Met. Corr. 1 H290 3.2/1A Skin Corr. 1A H314 3.3/1 Eye Dam. 1 H318 Specific Concentration Limits: C $\geq 5\%$: Skin Corr. 1A H314 2% \leq C < 5%: Skin Corr. 1B H314 0,5% \leq C < 2%: Skin Irrit. 2 H315 0,5% \leq C < 2%: Eye Irrit. 2 H319
$\geq 0.5\%$ - < 1%	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
$\geq 0.01\%$ - < 0.05%	1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9 REACH No.: 01-21207615 40-60-XXXX	3.4.2/1A Skin Sens. 1A H317 4.1/A1 Aquatic Acute 1 H400 3.1/4/Oral Acute Tox. 4 H302 Specific Concentration Limits: C $\geq 0,05\%$: Skin Sens. 1,1A,1B H317

SECTION 4: First aid measures

4.1. Description of first aid measures

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In case of skin contact:

- Immediately take off all contaminated clothing.
- After contact with skin, wash immediately with 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 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:

- Treat symptomatically.

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

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

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

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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 the product between + 0 °C / + 32 °F and + 40 °C / + 104 °F.
Store away from direct sunlight.
Keep away from food, drink and feed.
Incompatible materials:
Keep away from acids.
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

2-(2-butoxyethoxy)ethanol - CAS: 112-34-5

EU - TWA(8h): 67.5 mg/m³, 10 ppm - STEL: 101.2 mg/m³, 15 ppm

ACGIH - TWA(8h): 10 ppm - Notes: (IFV) - Hematologic, liver and kidney eff

sodium hydroxide - CAS: 1310-73-2

ACGIH - STEL: Ceiling 2 mg/m³ - Notes: URT, eye, and skin irr

ethanediol - CAS: 107-21-1

EU - TWA(8h): 52 mg/m³, 20 ppm - STEL: 104 mg/m³, 40 ppm - Notes: Skin

ACGIH - TWA(8h): 25 ppm - STEL: 50 ppm - Notes: (V), A4 - URT irr

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

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

NPHV - TWA(8h): 52 mg/m³, 20 ppm - STEL(15min): 104 mg/m³, 40 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

ACGIH - STEL: 10 mg/m³ - Notes: (I, H), A4 - URT irr

DNEL Exposure Limit Values

sodium hydroxide - CAS: 1310-73-2

Worker Professional: 1 mg/m³ - Consumer: 1 mg/m³ - Exposure: Human Inhalation -

Frequency: Long Term (repeated)

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

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1,2-benzisothiazolin-3-one - CAS: 2634-33-5

Worker Professional: 1 mg/m³ - Consumer: 1 mg/m³ - Exposure: Human Inhalation -
Frequency: Long Term, local 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

8.2. Exposure controls

Eye protection:

Use close safety visors, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

work gloves resistant to penetration (ref. standard EN 374).

Suitable material:

NR (natural rubber, natural latex).

NBR (nitrile rubber).

Material thickness: 0.4 mm minimum.

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:	Green	--	--
Odour:	characteristic	--	--
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.	--	--

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pH:	N.A.	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	total	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	1.01 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
Stable under normal conditions.
- 10.5. Incompatible materials
Strong acids.
- 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
The product is classified: Skin Irrit. 2 H315
- c) serious eye damage/irritation
The product is classified: Eye Dam. 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
Not classified

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- 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:
- Alcohols, C12-15, branched and linear, ethoxylated - CAS: 106232-83-1
- a) acute toxicity:
 - Test: LD50 - Route: Oral - Species: Rat 300 mg/kg - Notes: 300-2000 mg/kg
 - b) skin corrosion/irritation:
 - Test: Skin Irritant - Route: Skin - Species: Rabbit Positive
 - c) serious eye damage/irritation:
 - Test: Eye Irritant - Route: Eyes - Species: Rabbit Negative
 - d) respiratory or skin sensitisation:
 - Test: Skin Sensitization - Route: Skin Negative
 - Test: Respiratory Sensitization - Route: Inhalation Negative
- sodium hydroxide - CAS: 1310-73-2
- b) skin corrosion/irritation:
 - Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive
 - c) serious eye damage/irritation:
 - Test: Eye Irritant - Species: Rabbit Positive - Source: Guidelines 405 Test OECD
 - e) germ cell mutagenicity:
 - Test: Ames test - Species: Salmonella Typhimurium Negative
- ethanediol - CAS: 107-21-1
- a) acute toxicity:
 - Test: LD50 - Route: Oral - Species: Rat > 2000 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
- 1,2-benzisothiazolin-3-one - CAS: 2634-33-5
- a) acute toxicity:
 - Test: LD50 - Route: Oral - Species: Rat 670 mg/kg - Notes: OECD TG 401
 - Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg - Notes: OECD TG 402
 - b) skin corrosion/irritation:
 - Test: Skin Irritant - Route: Skin - Species: Rabbit Positive - Duration: 4h - Notes: US-EPA
 - c) serious eye damage/irritation:
 - Test: Eye Corrosive - Route: Eyes - Species: Rabbit Positive - Notes: OECD TG 405
 - d) respiratory or skin sensitisation:
 - Test: Skin Sensitization - Route: Skin - Species: Human beings Positive
 - e) germ cell mutagenicity:
 - Test: Mutagenesis - Route: In vitro - Species: Salmonella Typhimurium Negative - Notes: OECD TG 471
 - Test: chromosomal aberration test - Route: In vitro - Species: Human lymphocytes Negative - Notes: OECD TG 473; with Metabolic activation
 - Test: Mutagenesis - Route: In vitro - Species: murine lymphoma cells Negative - Notes: OECD TG 476
 - Test: Micronucleus test - Route: In vivo - Species: Mouse Negative - Notes: OECD TG 474; Cell type: Bone marrow; Oral; Doses: 1200 mg/kg
- 2-(2-butoxyethoxy)ethanol - CAS: 112-34-5

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LD50 (RAT) ORAL: 6560 MG/KG
LD50 (RABBIT) SKIN: 4120 MG/KG

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.

Not classified for environmental hazards

Based on available data, the classification criteria are not met

Alcohols, C12-15, branched and linear, ethoxylated

a) Aquatic acute toxicity:

Endpoint: NOEC - Species: Fish > 0.1 mg/l - Notes: $>0.1-1$ mg/L CESIO

Endpoint: NOEC - Species: Daphnia > 0.1 mg/l - Notes: $>0.1-1$ mg/L CESIO

Endpoint: NOEC - Species: Algae > 0.1 mg/l - Notes: $>0.1-1$ mg/L CESIO

sodium hydroxide

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 189 mg/l - Duration h: 48

Endpoint: EC0 - Species: Daphnia = 40.4 mg/l - Duration h: 48 - Notes: Species: Ceriodaphnia dubia

Endpoint: LC50 - Species: Fish 125 mg/l - Duration h: 96 - Notes: Species: Gambusia affinis

Endpoint: LC50 - Species: Fish 45.4 mg/l - Duration h: 96 - Notes: Species: Oncorhynchus mykiss

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

1,2-benzisothiazolin-3-one

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 2.18 mg/l - Duration h: 96 - Notes: Species: Oncorhynchus mykiss; Method: OECD TG 203

Endpoint: EC50 - Species: Daphnia 2.94 mg/l - Duration h: 48 - Notes: Species: Daphnia magna; Method: OECD TG 202

Endpoint: ErC50 - Species: Algae 0.11 mg/l - Duration h: 72 - Notes: Species: Pseudokirchneriella subcapitata; Method: OECD TG 201

Endpoint: ErC50 - Species: Algae 0.15 mg/l - Duration h: 72 - Notes: Species: Selenastrum capricornutum; Test type: Growth inhibitor

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish 0.3 mg/l - Duration h: 672 - Notes: Species: Oncorhynchus mykiss; Test type: Growth inhibitor

Endpoint: NOEC - Species: Daphnia 1.7 mg/l - Duration h: 504 - Notes: Species: Daphnia magna; Method: OECD TG 211

d) Terrestrial toxicity:

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Endpoint: LC50 - Species: earthworms > 410.6 mg/kg - Duration h: 336 - Notes:
Species: Eisenia fetida; Method: OECD TG 207
Endpoint: NOEC - Species: Microflora of the soil 263.7 mg/kg - Duration h: 672 - Notes:
OECD TG 216

- 12.2. Persistence and degradability
 - Alcohols, C12-15, branched and linear, ethoxylated - CAS: 106232-83-1
Biodegradability: Readily biodegradable - Test: OECD 301 F - %: 70
 - ethanediol - CAS: 107-21-1
Biodegradability: Readily biodegradable - Test: Solubility in water - Notes: 1000 - 10000 mg/L
 - 1,2-benzisothiazolin-3-one - CAS: 2634-33-5
Biodegradability: Readily biodegradable - Duration: 28 d - %: 70
- 12.3. Bioaccumulative potential
 - ethanediol - CAS: 107-21-1
Bioaccumulation: Very low bioaccumulative - Test: Kow - Partition coefficient 1.360000-
 - 1,2-benzisothiazolin-3-one - CAS: 2634-33-5
Bioaccumulation: Not bioaccumulative
- 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
 - 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

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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

Restrictions related to the substances contained:

Restriction 55

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.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

H319 Causes serious eye irritation.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

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

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

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Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
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
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
Skin Sens. 1A	3.4.2/1A	Skin Sensitisation, Category 1A
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 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
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	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.
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).

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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.