Safety Data Sheet
KIRI

Safety Data Sheet dated 28/1/2021, 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: KIRI
1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended use:
liquid for smoke generator machine
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:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P501 Dispose of contents/container in accordance with applicable regulations.
Special Provisions:
None
Contains
d-limonene: 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 >= 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
>= 1% - < 2.5%	2-methylpentane-2,4-diol	Index number: 603-053-00-3 CAS: 107-41-5 EC: 203-489-0 REACH No.: 01-21195395 82-35-XXXX	3.2/2 Skin Irrit. 2 H315 3.3/2 Eye Irrit. 2 H319
>= 0.5% - < 1%	Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	CAS: 68424-85-1 EC: 270-325-2 REACH No.: 01-21199651 80-41-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.
>= 0.25% - < 0.5%	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.
>= 0.25% - < 0.5%	d-limonene	Index number: 601-029-00-7 CAS: 5989-27-5 EC: 227-813-5 REACH No.: 01-21195292 23-47-XXXX	2.6/3 Flam. Liq. 3 H226 3.2/2 Skin Irrit. 2 H315 3.4.2/1B Skin Sens. 1B H317 3.10/1 Asp. Tox. 1 H304 4.1/A1 Aquatic Acute 1 H400 4.1/C1 Aquatic Chronic 1 H410
>= 0.05% - < 0.1%	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

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:
If breathing is difficult, seek medical attention.
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
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
For cleaning up:
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.
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.
Advice on general occupational hygiene:
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities
Store between + 5 ° C / + 41 ° F and + 30 ° C / + 86 ° F.
Keep container tightly closed.
Keep away from food, drink and feed.
Incompatible materials:
See subsection 10.5
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-methylpentane-2,4-diol - CAS: 107-41-5
ACGIH - TWA(8h): 25 ppm - STEL: 50 ppm - Notes: (V) - Eye and URT irr
ACGIH - STEL: 10 mg/m3 - Notes: (I, H) - Eye and URT irr

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
GVI - TWA(8h): 999 mg/m3, 400 ppm - STEL(15min): 1250 mg/m3, 500 ppm

DNEL Exposure Limit Values

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

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

PNEC Exposure Limit Values

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
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

8.2. Exposure controls

Eye protection:
Not needed for normal use.
Eye glasses with side protection.

Protection for skin:
Not needed for normal use.
protective suit.

Protection for hands:
Not needed for normal use.
One-time gloves.
Suitable material:
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 necessary for normal use.
full face mask with combined filter type ABEK (EN 14387).

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:	light yellow	--	--
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:	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--

Decomposition temperature:	N.A.	--	--
pH:	8	--	--
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 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 extreme heat and high-energy ignition sources.

10.5. Incompatible materials

strong acids and bases.
Strong oxidizing agents.
Anionic surfactants.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

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:

2-methylpentane-2,4-diol - CAS: 107-41-5

a) acute toxicity:

Test: LD50 - Route: Inhalation - Species: Rat = 66 ppm - Duration: 8h

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 Irritant - Route: Skin - Species: Rabbit Positive - Duration: 24 h - Source: DOT - Notes: Corrosive

c) serious eye damage/irritation:

Test: Eye Irritant - Route: Eyes - Species: Rabbit Positive - Source: DOT - Notes: Corrosive

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 - Species: Salmonella Typhimurium Negative - Source: OECD TG 471 - Notes: Methabolic activation: yes - BPL: yes

Test: chromosomal aberration test - Species: Human lymphocytes Negative - Source: OECD TG 473

Test: Mutagenesis - Species: Chinese hamster ovary cells Negative - Source: OECD TG 476 - Notes: Methabolic activation: yes - BPL: yes

Test: Genotoxicity - Species: rat hepatocytes Negative - Source: OECD TG 482 - Notes: BPL: yes

Test: Micronucleus test - Route: Oral - Species: Mouse Negative - Source: OECD TG 474 - Notes: BPL: yes

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 - 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 - 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

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 76.2 mg/l - Duration: 4h

Test: LD50 - Route: Skin - Species: Rabbit 6290 mg/kg

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 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

2-methylpentane-2,4-diol

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 8510 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 5410 mg/l - Duration h: 48

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 0.032 mg/l - Duration h: 816 - Notes: Species: Pimephales promelas (fathead minnow) Early-life Stage Method: EPA-FIFRA

Endpoint: NOEC - Species: Daphnia 0.0042 mg/l - Duration h: 504 - Notes: Species: Daphnia magna (Water flea) Reproduction Test Method: EPA-FIFRA

c) Bacteria toxicity:

Endpoint: EC50 - Species: Bacteria 7.75 mg/l - Duration h: 3 - Notes: Species: activated sludge Respiration inhibition Method: 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

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) Reproduction Test Method: OECD Test Guideline 211

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: Growth inhibition Method: OECD Test Guideline 208

d-limonene

a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 35 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss
Endpoint: EC50 - Species: Daphnia 69.6 mg/l - Duration h: 48 - Notes: Daphnia pulex

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

12.2. Persistence and degradability

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

didecyldimethylammonium chloride - CAS: 7173-51-5
Biodegradability: Readily biodegradable - Test: Modified Sturm Test - Duration: 28 d - %: 72 - Notes: Method: OECD Test Guideline 301B
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

12.3. Bioaccumulative potential

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

Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentrantion factor - Duration: 35 d - Notes: BCF: 79 - Concentration: 0,076 mg/l

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

Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.05

12.4. Mobility in soil

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

didecyldimethylammonium chloride - CAS: 7173-51-5

Mobility in soil: Mobile - Notes: Method: US-EPA

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 >= 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-Enviromental 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)

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:

No restriction.

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:

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H301 Toxic if swallowed.
H411 Toxic to aquatic life with long lasting effects.
H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H304 May be fatal if swallowed and enters airways.
H225 Highly flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

Hazard class and hazard category	**Code**	**Description**
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2

Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 3	3.1/3/Oral	Acute toxicity (oral), Category 3
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
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. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
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.
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.