

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

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

◊ **1.1 Product identifier**

◊ Trade name: **Zitronenöl, Typ Messina, nat./nat.id. 01-3980**

◊ Article number: P0119836

◊ Registration number -

◊ **1.2 Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.

◊ Application of the substance / the mixture Flavour/Fragrance

◊ **1.3 Details of the supplier of the safety data sheet**

◊ Manufacturer/Supplier:

Frey & Lau GmbH

Immenhacken 12, D-24558 Henstedt-Ulzburg

Tel: ++49-4193-9953 Fax: +49-4193-9955-80

◊ Further information obtainable from:

Sachkundige Person Frey + Lau

info@freylau.com

◊ **1.4 Emergency telephone number:** ++49-40-54.77.99.56 WAKO

. SECTION 2: Hazards identification

◊ **2.1 Classification of the substance or mixture**

◊ Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H226 Flammable liquid and vapour.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

◊ **2.2 Label elements**

◊ Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

◊ Hazard pictograms

   
GHS02 GHS07 GHS08 GHS09

◊ Signal word Danger

◊ Hazard-determining components of labelling:

(R)-p-mentha-1,8-diene

3,7-Dimethyl-2,6-octadien-1-al (cis und trans)

(S)-p-Mentha-1,8-diene

beta-Pinene

alpha-Pinene

Myrcene

3,7-Dimethyl-1,6-octadien-3-ol

3,7-Dimethyl-1,6-octadien-3-yl acetate

4-Methyliden-1-propan-2-ylbicyclo[3.1.0]hexan

Citronellal

◊ Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H304 May be fatal if swallowed and enters airways.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

◊ Precautionary statements

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P331 Do NOT induce vomiting.

(Contd. on page 2)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina,nat./nat.id. 01-3980

(Contd. of page 1)

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

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

◊ **2.3 Other hazards**

◊ Results of PBT and vPvB assessment

◊ PBT: Not applicable.

◊ vPvB: Not applicable.

. SECTION 3: Composition/information on ingredients

◊ **3.2 Mixtures**

◊ Description: Mixture of substances listed below with nonhazardous additions.

◊ Dangerous components:

CAS: 5989-27-5 (R)-p-mentha-1,8-diene >50-100%

EINECS: 227-813-5 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400 (M=1); Skin Irrit. 2, H315; Skin Sens. 1B, H317; Aquatic Chronic 3, H412
substance with a Community workplace exposure limit

CAS: 5392-40-5 3,7-Dimethyl-2,6-octadien-1-al (cis und trans) >5-<10%

EINECS: 226-394-6 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317

CAS: 5989-54-8 (S)-p-Mentha-1,8-diene >2,5-5%

EINECS: 227-815-6 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1); Skin Irrit. 2, H315; Skin Sens. 1B, H317

CAS: 18172-67-3 beta-Pinene >2,5-5%

EINECS: 242-060-2 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1); Skin Irrit. 2, H315; Skin Sens. 1B, H317

CAS: 99-85-4 p-Mentha-1,4-diene 1-2,5%

EINECS: 202-794-6 Flam. Liq. 3, H226; Asp. Tox. 1, H304

CAS: 80-56-8 alpha-Pinene ≥1-<2,5%

EINECS: 201-291-9 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1); Acute Tox. 4, H302; Skin Irrit. 2, H315; Skin Sens. 1B, H317

ATE: LD50 oral: 500 mg/kg

substance with a Community workplace exposure limit

CAS: 123-35-3 Myrcene ≥0,25-<1%

EINECS: 204-622-5 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317

CAS: 78-70-6 3,7-Dimethyl-1,6-octadien-3-ol ≥0,1-<1%

EINECS: 201-134-4 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317

CAS: 115-95-7 3,7-Dimethyl-1,6-octadien-3-yl acetate ≥0,1-<1%

EINECS: 204-116-4 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317

CAS: 3387-41-5 4-Methyliden-1-propan-2-ylbicyclo[3.1.0]hexan ≥0,1-<1%

Flam. Liq. 3, H226; Asp. Tox. 1, H304; Skin Irrit. 2, H315; Skin Sens. 1, H317

CAS: 106-23-0 Citronellal ≥0,1-<1%

EINECS: 203-376-6 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412

CAS: 10191-41-0 d,l-alpha-Tocopherol ≥0,1-<1%

EINECS: 233-466-0 Skin Sens. 1B, H317

CAS: 99-87-6 p-cymene <0,25%

EINECS: 202-796-7 Flam. Liq. 3, H226; Acute Tox. 3, H331; Asp. Tox. 1, H304; Aquatic Chronic 2, H411

ATE: LD50 oral: 4.750 mg/kg

LC50 inhalative: 3 mg/l

◊ Additional information: For the wording of the listed hazard phrases refer to section 16.

CH
(Contd. on page 3)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina,nat./nat.id. 01-3980

(Contd. of page 2)

. SECTION 4: First aid measures

◊ **4.1 Description of first aid measures**

◊ General information: Immediately remove any clothing soiled by the product.

◊ After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

◊ After skin contact: Immediately wash with water and soap and rinse thoroughly.

◊ After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

◊ After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

◊ **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

◊ **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

. SECTION 5: Firefighting measures

◊ **5.1 Extinguishing media**

◊ Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

◊ For safety reasons unsuitable extinguishing agents: Water with full jet

◊ **5.2 Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.

◊ **5.3 Advice for firefighters**

◊ Protective equipment: No special measures required.

. SECTION 6: Accidental release measures

◊ **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

◊ **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

◊ **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Treat with 2 % sodium hydroxide solution.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

◊ **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

. SECTION 7: Handling and storage

◊ **7.1 Precautions for safe handling** Prevent formation of aerosols.

◊ Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

◊ **7.2 Conditions for safe storage, including any incompatibilities**

◊ Storage:

◊ Requirements to be met by storerooms and receptacles: No special requirements.

◊ Information about storage in one common storage facility: Not required.

◊ Further information about storage conditions: Keep container tightly sealed.

◊ Storage class: 3

(Contd. on page 4)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina,nat./nat.id. 01-3980

(Contd. of page 3)

◊ **7.3 Specific end use(s)** No further relevant information available.

. SECTION 8: Exposure controls/personal protection

◊ **8.1 Control parameters**

◊ *Ingredients with limit values that require monitoring at the workplace:*

5989-27-5 (R)-p-mentha-1,8-diene

MAK Short-term value: 80 mg/m³, 14 ppm

Long-term value: 40 mg/m³, 7 ppm

S SSc;

80-56-8 alpha-Pinene

MAK Short-term value: 224 mg/m³, 40 ppm

Long-term value: 112 mg/m³, 20 ppm

H S;

◊ *Additional information: The lists valid during the making were used as basis.*

◊ **8.2 Exposure controls**

◊ *Appropriate engineering controls* No further data; see section 7.

◊ *Individual protection measures, such as personal protective equipment*

◊ *General protective and hygienic measures:*

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

◊ *Respiratory protection: Not required.*

◊ *Hand protection*

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

◊ *Material of gloves* Multichemical-resistant gloves, Category III acc. to Regulation (EC) 2016/425

◊ *Penetration time of glove material*

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

◊ *Eye/face protection* Tightly sealed goggles

. SECTION 9: Physical and chemical properties

◊ **9.1 Information on basic physical and chemical properties**

◊ *General Information*

◊ *Physical state*

Liquid

◊ *Colour:*

Yellow

◊ *Odour:*

Characteristic

◊ *Odour threshold:*

Not determined.

◊ *Melting point/freezing point:*

Undetermined.

◊ *Flammability*

Flammable.

◊ *Lower and upper explosion limit*

◊ *Lower:*

Not determined.

◊ *Upper:*

Not determined.

◊ *Flash point:*

52 °C

◊ *Decomposition temperature:*

Not determined.

◊ *pH*

Mixture is non-polar/aprotic.

◊ *Solubility*

◊ *water:*

Not determined.

◊ *Partition coefficient n-octanol/water (log value)*

Not determined.

◊ *Density and/or relative density*

◊ *Density at 20 °C:*

0,848 g/cm³

(Contd. on page 5)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina,nat./nat.id. 01-3980

(Contd. of page 4)

◊ Relative density	Not determined.
◊ Vapour density	Not determined.
◊ 9.2 Other information	
◊ Appearance:	
◊ Form:	Fluid
◊ Important information on protection of health and environment, and on safety.	
◊ Ignition temperature:	Not determined.
◊ Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
◊ Solvent separation test:	
◊ VOC (EC)	98,09 %
◊ Evaporation rate	Not determined.
◊ Information with regard to physical hazard classes	
◊ Explosives	Void
◊ Flammable gases	Void
◊ Aerosols	Void
◊ Oxidising gases	Void
◊ Gases under pressure	Void
◊ Flammable liquids	Flammable liquid and vapour.
◊ Flammable solids	Void
◊ Self-reactive substances and mixtures	Void
◊ Pyrophoric liquids	Void
◊ Pyrophoric solids	Void
◊ Self-heating substances and mixtures	Void
◊ Substances and mixtures, which emit flammable gases in contact with water	Void
◊ Oxidising liquids	Void
◊ Oxidising solids	Void
◊ Organic peroxides	Void
◊ Corrosive to metals	Void
◊ Desensitised explosives	Void

. SECTION 10: Stability and reactivity

- ◊ **10.1 Reactivity** No further relevant information available.
- ◊ **10.2 Chemical stability**
- ◊ Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- ◊ **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- ◊ **10.4 Conditions to avoid** No further relevant information available.
- ◊ **10.5 Incompatible materials:** No further relevant information available.
- ◊ **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

. SECTION 11: Toxicological information

- ◊ **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- ◊ Acute toxicity Based on available data, the classification criteria are not met.
- ◊ LD/LC50 values relevant for classification:
- ATE (Acute Toxicity Estimates)**
- Oral LD50 46.655 mg/kg
- Inhalative LC50 2.427 mg/l (ATE)
- ◊ Primary irritant effect:
- ◊ Skin corrosion/irritation Causes skin irritation.
- ◊ Serious eye damage/irritation Based on available data, the classification criteria are not met.
- ◊ Respiratory or skin sensitisation May cause an allergic skin reaction.

(Contd. on page 6)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina, nat./nat.id. 01-3980

(Contd. of page 5)

- ◊ **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- ◊ **Carcinogenicity** Based on available data, the classification criteria are not met.
- ◊ **Reproductive toxicity** Based on available data, the classification criteria are not met.
- ◊ **STOT-single exposure** Based on available data, the classification criteria are not met.
- ◊ **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- ◊ **Aspiration hazard** May be fatal if swallowed and enters airways.
- ◊ **11.2 Information on other hazards**
- ◊ **Endocrine disrupting properties**
- None of the ingredients is listed.

. SECTION 12: Ecological information

- ◊ **12.1 Toxicity**
- ◊ **Aquatic toxicity:** No further relevant information available.
- ◊ **12.2 Persistence and degradability** No further relevant information available.
- ◊ **12.3 Bioaccumulative potential** No further relevant information available.
- ◊ **12.4 Mobility in soil** No further relevant information available.
- ◊ **12.5 Results of PBT and vPvB assessment**
- ◊ **PBT:** Not applicable.
- ◊ **vPvB:** Not applicable.
- ◊ **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- ◊ **12.7 Other adverse effects**
- ◊ **Remark:**
- Very toxic for fish
- Toxic for fish
- Very toxic for water fleas.
- Toxic for water fleas
- Very toxic for algae
- Toxic for algae
- ◊ **Additional ecological information:**
- ◊ **General notes:**
- Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
- Do not allow product to reach ground water, water course or sewage system.
- Danger to drinking water if even small quantities leak into the ground.
- Also poisonous for fish and plankton in water bodies.
- Very toxic for aquatic organisms
- Toxic for aquatic organisms

. SECTION 13: Disposal considerations

- ◊ **13.1 Waste treatment methods**
- ◊ **Recommendation** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- ◊ **Uncleaned packaging:**
- ◊ **Recommendation:** Disposal must be made according to official regulations.

. SECTION 14: Transport information

- ◊ **14.1 UN number or ID number**
- ◊ **ADR, IMDG, IATA** UN1993
- ◊ **14.2 UN proper shipping name**
- ◊ **ADR** ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (DIPENTEN, beta-Pinen), UMWELTGEFÄHRDEND
- ◊ **IMDG** FLAMMABLE LIQUID, N.O.S. (DIPENTENE, beta-Pinene), MARINE POLLUTANT

(Contd. on page 7)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1





Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina, nat./nat.id. 01-3980

(Contd. of page 6)

◊ IATA	FLAMMABLE LIQUID, N.O.S. (containing DIPENTENE, beta-Pinene)
◊ 14.3 Transport hazard class(es)	
◊ ADR	
◊ Class	3 (F1) Flammable liquids.
◊ Label	3
◊ IMDG, IATA	
◊ Class	3 Flammable liquids.
◊ Label	3
◊ 14.4 Packing group	
◊ ADR, IMDG, IATA	III
◊ 14.5 Environmental hazards:	Product contains environmentally hazardous substances: (R)-p-mentha-1,8-diene
◊ Marine pollutant:	Yes
◊ Special marking (ADR):	Symbol (fish and tree)
◊ 14.6 Special precautions for user	Symbol (fish and tree)
◊ Hazard identification number (Kemler code):	Warning: Flammable liquids.
◊ EMS Number:	30
◊ Stowage Category	F-E, S-E
◊ 14.7 Maritime transport in bulk according to IMO instruments	A
◊ Transport/Additional information:	Not applicable.
◊ ADR	
◊ Limited quantities (LQ)	5L
◊ Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
◊ Transport category	3
◊ Tunnel restriction code	D/E
◊ IMDG	
◊ Limited quantities (LQ)	5L
◊ Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
◊ UN "Model Regulation":	UN 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (DIPENTEN, BETA-PINEN), 3, III, UMWELTGEFÄHRDEND

. SECTION 15: Regulatory information

- ◊ **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
822.115, Jugendarbeitsschutzverordnung - ArbZ 5 und 822.115.2, Verordnung des WBF über gefährliche Arbeiten für Jugendliche sind zu beachten.
ArbZ 1 und 822.111.52, Verordnung des WBF über gefährliche und beschwerliche Arbeiten bei Schwangerschaft und Mutterschaft sind nicht zutreffend.
- ◊ Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.
- ◊ Hazard pictograms




 GHS02 GHS07 GHS08 GHS09
- ◊ Signal word Danger
- ◊ Hazard-determining components of labelling:
(R)-p-mentha-1,8-diene
3,7-Dimethyl-2,6-octadien-1-al (cis und trans)

(Contd. on page 8)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina,nat./nat.id. 01-3980

(Contd. of page 7)

- (S)-p-Mentha-1,8-diene
beta-Pinene
alpha-Pinene
Myrcene
3,7-Dimethyl-1,6-octadien-3-ol
3,7-Dimethyl-1,6-octadien-3-yl acetate
4-Methyliden-1-propan-2-ylbicyclo[3.1.0]hexan
Citronellal
- ◊ **Hazard statements**
 - H226 Flammable liquid and vapour.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H304 May be fatal if swallowed and enters airways.
 - H400 Very toxic to aquatic life.
 - H411 Toxic to aquatic life with long lasting effects.
 - ◊ **Precautionary statements**
 - P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 - P331 Do NOT induce vomiting.
 - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 - P362+P364 Take off contaminated clothing and wash it before reuse.
 - P405 Store locked up.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
 - ◊ Directive 2012/18/EU
 - ◊ Named dangerous substances - ANNEX I None of the ingredients is listed.
 - ◊ Seveso category
 - E1 Hazardous to the Aquatic Environment
 - P5c FLAMMABLE LIQUIDS
 - ◊ Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
 - ◊ Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
 - ◊ REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
 - ◊ DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
 - None of the ingredients is listed.
 - ◊ REGULATION (EU) 2019/1148
 - ◊ Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))
 - None of the ingredients is listed.
 - ◊ Annex II - REPORTABLE EXPLOSIVES PRECURSORS
 - None of the ingredients is listed.
 - ◊ Regulation (EC) No 273/2004 on drug precursors
 - None of the ingredients is listed.
 - ◊ Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors
 - None of the ingredients is listed.
 - ◊ National regulations:
 - ◊ Waterhazard class: Klasse A (Self-assessment)
 - ◊ **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

. SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- ◊ **Relevant phrases**
 - H226 Flammable liquid and vapour.
 - H302 Harmful if swallowed.
 - H304 May be fatal if swallowed and enters airways.

(Contd. on page 9)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.04.2025

Version 1

Revision: 30.04.2025

Trade name: Zitronenöl, Typ Messina,nat./nat.id. 01-3980

(Contd. of page 8)

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

◊ Department issuing SDS: Regulatory Affairs

◊ Contact: Dr. Maja Zippel

◊ Date of previous version: 30.04.2025

◊ Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation – Category 1B

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

◊ * Data compared to the previous version altered.