











## Safety Data Sheet dated 14/2/2019, version 3

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

1.1. Product identifier

Identification of the substance:

Trade name: RED THYME ESSENTIAL OIL

Trade code: OL.ES.139 CAS number: 8007-46-3

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

Recommended use:

Raw material for fragrances, cosmetics, food

1.3. Details of the supplier of the safety data sheet

Company:

ESPERIS SPA

St. Ambrogio Binda 29

20143 MILANO (ITALY)

Tel. +39 02 89122219

Competent person responsible for the safety data sheet:

info@esperis.it

1.4. Emergency telephone number

Antipoison Center - Hospital Name 1 - City - Telephone nbr. (availability information)

#### **SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

- Warning, Flam. Liq. 3, Flammable liquid and vapour.
- Warning, Acute Tox. 4, Harmful if swallowed.
- Danger, Skin Corr. 1B, Causes severe skin burns and eye damage.
- Danger, Eye Dam. 1, Causes serious eye damage.
- Warning, Skin Sens. 1B, May cause an allergic skin reaction.
- Danger, Asp. Tox. 1, May be fatal if swallowed and enters airways.
- Aquatic Chronic 2, Toxic 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:

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H304 May be fatal if swallowed and enters airways.

H411 Toxic 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.

P273 Avoid release to the environment.

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

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water [or shower].

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

P310 Immediately call a POISON CENTER/doctor/...

P331 Do NOT induce vomiting.

P370+P378 In case of fire: Use ... to extinguish.

P391 Collect spillage.

P403+P235 Store in a well-ventilated place. Keep cool.

#### **Special Provisions:**

None

#### Contains

**THYMOL** 

(R)-P-MENTA-1,8-DIENE

**CARVACROLO** 

**PARA-CIMENE** 

LINALOLO: May produce an allergic reaction.

BETA-MYRCENE: May produce an allergic reaction.
ALPHA PINENE: May produce an allergic reaction.

BETA PINENE: May produce an allergic reaction. GERANIOLO: May produce an allergic reaction.

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

None

#### 2.3. Other hazards

vPvB Substances: None - PBT Substances: None

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
>= 50% -	THYMOL		604-032-00-1	3.2/1B Skin Corr. 1B H314
< 60%			201-944-8	4.1/C2 Aquatic Chronic 2 H411 3.1/4/Oral Acute Tox. 4 H302



			77-46-XXXX	
>= 20% -	PARA-CIMENE	CAS:	99-87-6	2.6/3 Flam. Liq. 3 H226
< 30%		EC:	202-796-7	3.10/1 Asp. Tox. 1 H304
				3.2/2 Skin Irrit. 2 H315
				4.1/C2 Aquatic Chronic 2 H411
>= 10% -	(R)-P-MENTA-1,8-DIE	Index	601-029-00-7	2.6/3 Flam. Liq. 3 H226
< 12.5%	NÉ	number:		2.0/3 Fiam. Liq. 3 Fi220
		CAS: EC:	5989-27-5 227-813-5	3.10/1 Asp. Tox. 1 H304
			01-21195292	3.2/2 Skin Irrit. 2 H315 3.4.2/1B Skin Sens. 1B H317
			23-47-xxxx	& 1.2, 12 CKIII CONG. 12 11017
				4.1/A1 Aquatic Acute 1 H400
				4.1/C1 Aquatic Chronic 1
>= 2.5%	CARVACROLO	CAS:	499-75-2	H410
>= 2.5 % - < 5%	OAKVAOKOLO	EC:	207-889-6	3.1/4/Oral Acute Tox. 4 H302
				3.2/2 Skin Irrit. 2 H315
				3.3/2 Eye Irrit. 2 H319
				3.4.2/1 Skin Sens. 1 H317
>= 2.5% - < 5%	LINALOLO	CAS: EC:	78-70-6 201-134-4	3.2/2 Skin Irrit. 2 H315
- < 5/0			01-21194740	3.4.2/1B Skin Sens. 1B H317
			16-42-XXXX	3.3/2 Eye Irrit. 2 H319
>= 1% -	BETA	CAS:	87-44-5	3.10/1 Asp. Tox. 1 H304
< 2.5%	CARYOPHYLLENE	EC:	201-746-1	3.2/2 Skin Irrit. 2 H315
>= 1% -	BETA-MYRCENE	CAS:	123-35-3	2.6/3 Flam. Liq. 3 H226
< 2.5%		EC: REACH No.:	204-622-5	① 3.4.2/1 Skin Sens. 1 H317
			21-56-XXXX	4.1/A1 Aquatic Acute 1 H400
				4.1/C1 Aquatic Chronic 1
				H410
				3.10/1 Asp. Tox. 1 H304
				3.2/2 Skin Irrit. 2 H315
				3.3/2 Eye Irrit. 2 H319
				3.8/3 STOT SE 3 H335
>= 0.5%	CAMPHENE	CAS:	79-92-5	② 2.7/1 Flam. Sol. 1 H228
- < 1%		EC: REACH No.:	201-234-8	A
			01-21194462 93-40-XXXX	$\wedge$
			00 40 /////	6.0/2 Lyo IIII. 2 11010
				4.1/C1 Aquatic Chronic 1 H410
>= 0.5%	ALPHA PINENE	CAS:	80-56-8	<b>A</b>
- < 1%			201-291-9 01-21195192 23-49-XXXX	
				3.1/4/Oral Acute Tox. 4 H302
			23-43-7777	4.1/A1 Aquatic Acute 1 H400

				4.1/C1 Aquatic Chronic 1 H410 3.10/1 Asp. Tox. 1 H304 3.2/2 Skin Irrit. 2 H315 3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317
>= 0.1% - < 0.5%	BETA PINENE	CAS: EC:	127-91-3 204-872-5	2.6/3 Flam. Liq. 3 H226 4.1/A1 Aquatic Acute 1 H400 4.1/C1 Aquatic Chronic 1 H410 3.10/1 Asp. Tox. 1 H304 3.2/2 Skin Irrit. 2 H315 3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317
>= 0.1% - < 0.5%	GERANIOLO	CAS: EC: REACH No.:	106-24-1 203-377-1 01-21195524 30-49-XXXX	3.2/2 Skin Irrit. 2 H315 3.3/1 Eye Dam. 1 H318 3.4.2/1B Skin Sens. 1B H317

### **SECTION 4: First aid measures**

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and 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 opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

Give nothing to eat or drink.

In case of Inhalation:

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

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

None

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

# **SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire: Use ... to extinguish.

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 all sources of ignition.

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

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.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep the product in dry and cool place

Keep away from heather

Keep away from incompatible materials

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

None in particular

### **SECTION 8: Exposure controls/personal protection**



8.1. Control parameters

ALPHA PINENE - CAS: 80-56-8

ACGIH - TWA(8h): 20 ppm - Notes: DSEN, A4 - Lung irr

**BETA PINENE - CAS: 127-91-3** 

ACGIH - TWA(8h): 20 ppm - Notes: DSEN, A4 - Lung irr

DNEL Exposure Limit Values THYMOL - CAS: 89-83-8

Worker Industry: 117 03 - Exposure: Human Inhalation - Frequency: Long Term,

systemic effects

Worker Industry: 1 03 - Exposure: Human Inhalation - Frequency: Long Term, local

effects

Worker Industry: 16.6 03 - Exposure: Human Dermal - Frequency: Long Term,

systemic effects

Consumer: 29 03 - Exposure: Human Inhalation - Frequency: Long Term, systemic

effects

Consumer: 0.5 03 - Exposure: Human Inhalation - Frequency: Long Term, local effects

PNEC Exposure Limit Values THYMOL - CAS: 89-83-8

Target: Fresh Water - Value: 0.038 mg/l

Target: Freshwater sediments - Value: 3.16 mg/kg

Target: Marine water - Value: 0.04 mg/l

Target: Marine water sediments - Value: 0.316 mg/kg

Target: Microorganisms in sewage treatments - Value: 0.396 mg/l

8.2. Exposure controls

Eye protection:

Basket eye glasses.

Protection for skin:

Lab coat.

Overall.

Protection for hands:

CR (polychloroprene, chloroprene rubber).

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:
Appearance and colour:	liquid clear reddish		
Odour:	characteristic		
Odour threshold:	N.A.		
pH:	N.A.		
Melting point / freezing point:	N.A.		
Initial boiling point and boiling range:	N.A.		
Flash point:	60 ° C		



Evaporation rate:	N.A.	 
Solid/gas flammability:	N.A.	 
Upper/lower flammability	N.A.	 
or explosive limits:		
Vapour pressure:	N.A.	 
Vapour density:	N.A.	 
Relative density:	0.920 - 0.935	 
Solubility in water:	insoluble	 
Solubility in oil:	N.A.	 
Partition coefficient	N.A.	 
(n-octanol/water):		
Auto-ignition temperature:	N.A.	 
Decomposition	N.A.	 
temperature:		
Viscosity:	N.A.	 
Explosive properties:	N.A.	 
Oxidizing properties:	N.A.	 

### 9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	N.A.		
Fat Solubility:	N.A.		
Conductivity:	N.A.		
Substance Groups relevant properties	N.A.		

## **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

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products None.

# **SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Toxicological information of the product:

RED THYME ESSENTIAL OIL - CAS: 8007-46-3

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 2840 mg/kg Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg

Toxicological information of the main substances found in the product:

THYMOL - CAS: 89-83-8

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 980 mg/kg Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg

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(R)-P-MENTA-1,8-DIENE - CAS: 5989-27-5
a) acute toxicity:
      Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
LINALOLO - CAS: 78-70-6
a) acute toxicity:
      Test: LD50 - Route: Oral - Species: Rat = 2790 mg/kg
      Test: LD50 - Route: Skin - Species: Rabbit = 5610 mg/kg
BETA-MYRCENE - CAS: 123-35-3
a) acute toxicity:
      Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
CAMPHENE - CAS: 79-92-5
a) acute toxicity:
      Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
ALPHA PINENE - CAS: 80-56-8
a) acute toxicity:
      Test: LD50 - Route: Oral - Species: Rat = 3700 mg/kg
      Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
GERANIOLO - CAS: 106-24-1
a) acute toxicity:
      Test: LD50 - Route: Oral - Species: Rat = 4800 mg/kg
      Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
THYMOL - CAS: 89-83-8
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If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- i) aspiration hazard.

### **SECTION 12: Ecological information**

12.1. Toxicity

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Adopt good working practices, so that the product is not released into the environment.
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THYMOL - CAS: 89-83-8 a) Aquatic acute toxicity:

Endpoint: LC50 - Species: fish = 3.2 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 3.2 mg/l - Duration h: 96

Endpoint: EC50 - Species: Seaweed = 14 mg/l - Duration h: 72

Endpoint: NOEC - Species: Seaweed = 1.9 mg/l - Duration h: 72

Endpoint: EC50 - Species: 19 = 39.6 mg/l - Duration h: 3

(R)-P-MENTA-1,8-DIENE - CAS: 5989-27-5

a) Aquatic acute toxicity:

Endpoint: EC50 = 0.36 mg/l - Duration h: 48 - Notes: Daphnia magna

LINALOLO - CAS: 78-70-6 a) Aquatic acute toxicity:

Endpoint: EC50 - Species: DAPHNIA = 59000 mg/l - Duration h: 48



## **RED THYME ESSENTIAL OIL**

Endpoint: LC50 - Species: FISH = 27800 mg/l - Duration h: 96 Endpoint: EC50 - Species: ALGAE = 88300 mg/l - Duration h: 96

ALPHA PINENE - CAS: 80-56-8

a) Aquatic acute toxicity:

Endpoint: LC50 = 0.28 mg/l - Duration h: 96

GERANIOLO - CAS: 106-24-1 b) Aquatic chronic toxicity:

Endpoint: LC50 - Species: FISH = 3.7 mg/l - Duration h: 96 - Notes: trota iridea

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. 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

ADR-UN number: 2924 IATA-Un number: 2924 IMDG-Un number: 2924

14.2. UN proper shipping name

ADR-Shipping Name: FLAMMABLE CORROSIVE LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR-Class: 8+3 IATA-Class: 8+3 IMDG-Class: 8+3

14.4. Packing group

ADR-Packing Group: III IATA-Packing group: III IMDG-Packing group: III

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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) 2015/830

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)

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

None

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 Product belongs to category: P5c, E2

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:

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

H302 Harmful if swallowed.

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H228 Flammable solid.

H318 Causes serious eye damage.

Hazard class and hazard category	Code	Description
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Flam. Sol. 1	2.7/1	Flammable solid, Category 1
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. 1	3.4.2/1	Skin Sensitisation, Category 1
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
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

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
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1B, H317	Calculation method
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 2, H411	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

OL.ES.139/3



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.