




SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** Thunder-Zn
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses: Adjuvant
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
Desarrollo Agrícola y Minero S.A. (DAYMSA)
Camino de En medio 120
50013 Zaragoza - Zaragoza - Spain
Phone.: +34 976461516 - Fax: +34 976415986
mail@daymsa.com
www.daymsa.com
- 1.4 Emergency telephone number:**

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) No 1272/2008:
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.
Acute Tox. 4: Acute inhalation toxicity, Category 4, H332
Acute Tox. 4: Acute toxicity, Category 4, H302+H332
Acute Tox. 4: Acute toxicity, Category 4, H312+H332
- 2.2 Label elements:**
CLP Regulation (EC) No 1272/2008:
Warning

Hazard statements:
Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
Precautionary statements:
P101: If medical advice is needed, have product container or label at hand
P102: Keep out of reach of children
P264: Wash thoroughly after handling
P271: Use only outdoors or in a well-ventilated area
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P501: Dispose of contents/container according to the separated collection system used in your municipality
Supplementary information:
EUH208: Contains Clove leaf oil, Mentha piperita india oil, Rosemary, ext., Thyme, oleoresin. May produce an allergic reaction
- 2.3 Other hazards:**
Product fails to meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**
Non-applicable
- 3.2 Mixture:**
Chemical description: Solution
Components:
In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Identification	Chemical name/Classification	Concentration
CAS: 98-55-5 EC: 202-680-6 Index: Non-applicable REACH: 01-2119980717-23-XXXX	P-menth-1-en-8-ol⁽¹⁾ Self-classified	10 - <25 %
	Regulation 1272/2008 Eye Irrit. 2: H319; Skin Irrit. 2: H315 - Warning	
CAS: 84604-14-8 EC: 283-291-9 Index: Non-applicable REACH: 01-2120086955-39-XXXX	Rosemary, ext.⁽¹⁾ Self-classified	10 - <25 %
	Regulation 1272/2008 Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT SE 2: H371 - Danger	
CAS: 84961-50-2 EC: 284-638-7 Index: Non-applicable REACH: Non-applicable	Clove leaf oil⁽¹⁾ Self-classified	2,5 - <10 %
	Regulation 1272/2008 Asp. Tox. 1: H304; Eye Irrit. 2: H319; Skin Sens. 1: H317 - Danger	
CAS: 7646-85-7 EC: 231-592-0 Index: 030-003-00-2 REACH: 01-2119472431-44-XXXX	Zinc chloride⁽¹⁾ ATP CLP00	2,5 - <10 %
	Regulation 1272/2008 Acute Tox. 4: H302; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Skin Corr. 1B: H314 - Danger	
CAS: 104-76-7 EC: 203-234-3 Index: Non-applicable REACH: 01-2119487289-20-XXXX	2-ethylhexanol⁽¹⁾ Self-classified	2,5 - <10 %
	Regulation 1272/2008 Acute Tox. 4: H332; Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning	
CAS: 8006-90-4 EC: 282-015-4 Index: Non-applicable REACH: 01-2119974601-36-XXXX	Mentha piperita india oil⁽¹⁾ Self-classified	2,5 - <10 %
	Regulation 1272/2008 Aquatic Chronic 2: H411; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning	
CAS: 84929-51-1 EC: 284-535-7 Index: Non-applicable REACH: 01-2120769123-56-XXXX	Thyme, oleoresin⁽¹⁾ Self-classified	1 - <2,5 %
	Regulation 1272/2008 Acute Tox. 4: H302; Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Eye Dam. 1: H318; Flam. Liq. 3: H226; Skin Corr. 1C: H314; Skin Sens. 1: H317 - Danger	

⁽¹⁾ Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830

To obtain more information on the hazards of the substances consult sections 8, 11, 12, 15 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use, but the product contains flammable substances. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

6.2 Environmental precautions:

Avoid spillage into the aquatic environment as it contains substances potentially dangerous for this. Contain the product absorbed in hermetically sealed containers. In the case of serious spillage into the aquatic environment notify the relevant authority.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Avoid the evaporation of the product as it contains flammable substances, which could form flammable vapour/air mixtures in the presence of sources of ignition. Control sources of ignition (mobile phones, sparks,...) and transfer at slow speeds to avoid the creation of electrostatic charges. Avoid splashes and pulverizations. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

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SECTION 7: HANDLING AND STORAGE (continued)

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace

Identification	Environmental limits		
	IOELV (8h)	1 ppm	5.4 mg/m ³
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	IOELV (STEL)		

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	23 mg/kg	Non-applicable
	Inhalation	Non-applicable	106,4 mg/m ³	53,2 mg/m ³	Non-applicable
Mentha piperita india oil CAS: 8006-90-4 EC: 282-015-4	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	35,3 mg/m ³	Non-applicable

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	Oral	Non-applicable	Non-applicable	1,1 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	11,4 mg/kg	Non-applicable
	Inhalation	Non-applicable	53,2 mg/m ³	2,3 mg/m ³	Non-applicable
Mentha piperita india oil CAS: 8006-90-4 EC: 282-015-4	Oral	Non-applicable	Non-applicable	2,5 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	2,5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	8,7 mg/m ³	Non-applicable

PNEC:

Identification		Fresh water		Marine water	
		STP	Soil	STP	Soil
P-menth-1-en-8-ol CAS: 98-55-5 EC: 202-680-6	STP	2,6 mg/L	Fresh water	0,068 mg/L	
	Soil	0,329 mg/kg	Marine water	0,0068 mg/L	
	Intermittent	Non-applicable	Sediment (Fresh water)	1,85 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	0,185 mg/kg	
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	STP	10 mg/L	Fresh water	0,017 mg/L	
	Soil	0,047 mg/kg	Marine water	0,0017 mg/L	
	Intermittent	0,17 mg/L	Sediment (Fresh water)	0,28 mg/kg	
	Oral	55 g/kg	Sediment (Marine water)	0,028 mg/kg	
Mentha piperita india oil CAS: 8006-90-4 EC: 282-015-4	STP	1,8 mg/L	Fresh water	0,0054 mg/L	
	Soil	0,261 mg/kg	Marine water	0,00054 mg/L	
	Intermittent	0,00577 mg/L	Sediment (Fresh water)	1,3 mg/kg	
	Oral	44,44 g/kg	Sediment (Marine water)	0,13 mg/kg	

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)



As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	 CAT III	EN 405:2001+A1:2009	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands





Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves	 CAT III	EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"



D.- Ocular and facial protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield	 CAT II	EN 166:2001 EN 167:2001 EN 168:2001 EN ISO 4007:2012	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks	 CAT III	EN 13034:2005+A1:2009 EN 168:2001 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2001 EN ISO 6530:2005 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk	 CAT III	EN ISO 20345:2011 EN 13832-1:2006	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply): 7,74 % weight
V.O.C. density at 20 °C: 77,73 kg/m³ (77,73 g/L)

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Average carbon number: 9
Average molecular weight: 142,2 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Not available
Colour:	Not available
Odour:	Not available
Odour threshold:	Non-applicable *

Volatility:

Boiling point at atmospheric pressure:	188 °C
Vapour pressure at 20 °C:	1071 Pa
Vapour pressure at 50 °C:	42,47 (5,66 kPa)
Evaporation rate at 20 °C:	Non-applicable *

Product description:

Density at 20 °C:	1003,8 kg/m ³
Relative density at 20 °C:	1,004
Dynamic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *

Flammability:

Flash Point:	46 °C
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	288 °C
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *

Explosive:

Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *

9.2 Other information:

Surface tension at 20 °C:	Non-applicable *
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*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Refraction index: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Precaution	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

B- Inhalation (acute effect):

- Acute toxicity : Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Above all, may have harmful effects for health if the product is absorbed through the skin. For more information on the secondary effects of skin contact see section 2.
- Contact with the eyes: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
IARC: Non-applicable
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with sensitising effects. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for inhalation. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	3000 mg/kg	2100 mg/kg (ATEi)	Rat
		11 mg/L (4 h) (ATEi)	Rabbit
P-menth-1-en-8-ol CAS: 98-55-5 EC: 202-680-6	4300 mg/kg	Non-applicable	Rat
		Non-applicable	
		Non-applicable	
Thyme, oleoresin CAS: 84929-51-1 EC: 284-535-7	1800 mg/kg	Non-applicable	Rat
		Non-applicable	
		Non-applicable	
Mentha piperita india oil CAS: 8006-90-4 EC: 282-015-4	2500 mg/kg	Non-applicable	Rat
		Non-applicable	
		Non-applicable	
Zinc chloride CAS: 7646-85-7 EC: 231-592-0	528 mg/kg	Non-applicable	Rat
		Non-applicable	
		Non-applicable	

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Toxicity:

Identification	Acute toxicity		Species	Genus
	LC50	EC50		
P-menth-1-en-8-ol CAS: 98-55-5 EC: 202-680-6	10 mg/L (96 h)		Salmo gairdneri	Fish
		Non-applicable		
		Non-applicable		

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Species	Genus
Rosemary, ext. CAS: 84604-14-8 EC: 283-291-9	LC50	1 - 10 mg/L (96 h)		Fish
	EC50	1 - 10 mg/L		Crustacean
	EC50	1 - 10 mg/L		Algae
Zinc chloride CAS: 7646-85-7 EC: 231-592-0	LC50	18.18 mg/L (96 h)	Pimephales promelas	Fish
	EC50	0.158 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable		
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	LC50	28 mg/L (96 h)	Pimephales promelas	Fish
	EC50	39 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	11.5 mg/L (72 h)	Scenedesmus subspicatus	Algae
Mentha piperita india oil CAS: 8006-90-4 EC: 282-015-4	LC50	1 - 10 mg/L (96 h)		Fish
	EC50	1 - 10 mg/L		Crustacean
	EC50	1 - 10 mg/L		Algae
Thyme, oleoresin CAS: 84929-51-1 EC: 284-535-7	LC50	1 - 10 mg/L (96 h)		Fish
	EC50	1 - 10 mg/L		Crustacean
	EC50	1 - 10 mg/L		Algae

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
P-menth-1-en-8-ol CAS: 98-55-5 EC: 202-680-6	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	84,6 %

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
P-menth-1-en-8-ol CAS: 98-55-5 EC: 202-680-6	BCF	110
	Pow Log	2.98
	Potential	High
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	BCF	13
	Pow Log	2.73
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
2-ethylhexanol CAS: 104-76-7 EC: 203-234-3	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	2,82E-2 N/m (25 °C)	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the intended use by the user	Dangerous

Type of waste (Regulation (EU) No 1357/2014):

HP4 Irritant — skin irritation and eye damage, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP8 Corrosive, HP13 Sensitising

Waste management (disposal and evaluation):

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SECTION 13: DISPOSAL CONSIDERATIONS (continued)

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommend disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2019 and RID 2019:



- | | |
|---|---|
| 14.1 UN number: | UN1993 |
| 14.2 UN proper shipping name: | FLAMMABLE LIQUID, N.O.S. (Rosemary, ext.) |
| 14.3 Transport hazard class(es): | 3 |
| Labels: | 3 |
| 14.4 Packing group: | III |
| 14.5 Environmental hazards: | No |
| 14.6 Special precautions for user | |
| Special regulations: | 274 |
| Tunnel restriction code: | D/E |
| Physico-Chemical properties: | see section 9 |
| Limited quantities: | 5 L |
| 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: | Non-applicable |

Transport of dangerous goods by sea:

With regard to IMDG 38-16:



- | | |
|---|---|
| 14.1 UN number: | UN1993 |
| 14.2 UN proper shipping name: | FLAMMABLE LIQUID, N.O.S. (Rosemary, ext.) |
| 14.3 Transport hazard class(es): | 3 |
| Labels: | 3 |
| 14.4 Packing group: | III |
| 14.5 Environmental hazards: | No |
| 14.6 Special precautions for user | |
| Special regulations: | 274, 223, 955 |
| EmS Codes: | F-E, S-E |
| Physico-Chemical properties: | see section 9 |
| Limited quantities: | 5 L |
| Segregation group: | Non-applicable |
| 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: | Non-applicable |

Transport of dangerous goods by air:

With regard to IATA/ICAO 2019:

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SECTION 14: TRANSPORT INFORMATION (continued)



14.1 UN number:	UN1993
14.2 UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (Rosemary, ext.)
14.3 Transport hazard class(es):	3
Labels:	3
14.4 Packing group:	III
14.5 Environmental hazards:	No
14.6 Special precautions for user	
Physico-Chemical properties:	see section 9
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:	Non-applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable
 Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable
 Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable
 Article 95, REGULATION (EU) No 528/2012: Non-applicable
 REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Seveso III:

Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc):

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

Non-applicable

Texts of the legislative phrases mentioned in section 2:

H332: Harmful if inhaled
 H302+H332: Harmful if swallowed or if inhaled
 H312+H332: Harmful in contact with skin or if inhaled

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

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SECTION 16: OTHER INFORMATION (continued)

Acute Tox. 4: H302 - Harmful if swallowed
Acute Tox. 4: H332 - Harmful if inhaled
Aquatic Acute 1: H400 - Very toxic to aquatic life
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways
Eye Dam. 1: H318 - Causes serious eye damage
Eye Irrit. 2: H319 - Causes serious eye irritation
Flam. Liq. 3: H226 - Flammable liquid and vapour
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage
Skin Corr. 1C: H314 - Causes severe skin burns and eye damage
Skin Irrit. 2: H315 - Causes skin irritation
Skin Sens. 1: H317 - May cause an allergic skin reaction
STOT SE 2: H371 - May cause damage to organs
STOT SE 3: H335 - May cause respiratory irritation

Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://echa.europa.eu>
<http://eur-lex.europa.eu>

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -