



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.09.2023

version: 1

Revision: 25.09.2023

1.1 Product identifier:

Trade name: **Zerumbone**

Article number: 83418

CAS Number:

471-05-6

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

No further relevant information available.

Application of the substance / the preparation: Reference substance

1.3 Details of the supplier of the safety data sheet:

Manufacturer/Supplier:

PhytoLab GmbH & Co. KG

Dutendorfer Str. 5-7

D-91487 Vestenbergsgreuth

Tel.: Germany/9163/88-327

Fax: Germany/9163/88-456

Mail: ref-substances@phytolab.de

Further information obtainable from: Material Safety Data Sheet: PLV_MSDS@phytolab.com

1.4 Emergency telephone number: Germany/9163/88-500

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

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



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

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

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms:



GHS07 GHS09

Signal word: Warning

Hazard statements:

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

(Contd. on page 2)

**Safety data sheet**

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version: 1

Revision: 25.09.2023

Trade name: **Zerumbone**

(Contd. of page 1)

Precautionary statements

P261 Avoid breathing dust.

P273 Avoid release to the environment.

P280 Wear protective gloves / protective clothing.

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

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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**3.1 Substances**

Synonyms: 2,6,10-Cycloundecatrien-1-one, 2,6,9,9-tetramethyl-, (2E,6E,10E)-

CAS No. Description

471-05-6 Zerumbone

Identification number(s) not applicable

Additional information: chemical product

SECTION 4: First aid measures**4.1 Description of first aid measures:**

General information:

Immediately remove any clothing soiled by the product.

Induce vomiting only with medical help.

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

After skin contact:

Immediately rinse with water.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.

If symptoms persist consult doctor.

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.

EU

(Contd. on page 3)



Safety data sheet

according to 1907/2006/EC, Article 31

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Revision: 25.09.2023

Trade name: **Zerumbone**

(Contd. of page 2)

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture:

No further relevant information available.

5.3 Advice for firefighters:

Protective equipment:

Wear fully protective suit.

Mount respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid formation of dust.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up: Pick up mechanically.

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:

Handling corresponding to laboratory safety guidelines.

Keep receptacles tightly sealed.

Open and handle receptacle with care.

Prevent formation of dust.

Ensure good ventilation/exhaustion at the workplace.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities:

Storage:

Requirements to be met by storerooms and receptacles:

Store in a cool location.

Store only in the original receptacle.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Store in the dark.

Recommended storage temperature: 2-8 °C

(Contd. on page 4)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.09.2023

version: 1

Revision: 25.09.2023

Trade name: **Zerumbone**

(Contd. of page 3)

Storage class: 13

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: Not required.

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:

The usual precautionary measures are to be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Keep away from foodstuffs, beverages and feed.

Avoid contact with the eyes and skin.

Respiratory protection:

Required in case of dust formation.

Use suitable respiratory protective device in case of insufficient ventilation.

Hand protection:

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

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

Material of gloves:



Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material:

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

Eye/face protection:



Tightly sealed goggles

Body protection: Protective work clothing

EU

(Contd. on page 5)

**Safety data sheet**

according to 1907/2006/EC, Article 31

Printing date 25.09.2023

version: 1

Revision: 25.09.2023

Trade name: **Zerumbone**

(Contd. of page 4)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

General Information:

Physical state:	Solid
Colour:	According to Certificate of Analysis
Odour:	No data available.
Odour threshold:	Not determined.
Molecular Weight	
Melting point/freezing point:	67-69 °C
Boiling point or initial boiling point and boiling range:	Undetermined.
Flammability:	Product is not flammable.
Dust explosion class:	
Lower and upper explosion limit:	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.
(Minimum) Ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Powder volume resistivity:	
pH:	Not applicable.
Dissociation constant:	
Viscosity:	
Kinematic viscosity:	Not applicable.
Solubility in other solvents:	
Dynamic:	Not applicable.
Solubility:	
water:	No data available.
Partition coefficient n-octanol/water (log value) at 25 °C:	4.168 (SciFinder)
Vapour pressure:	Not applicable.
Density and/or relative density:	
Density at 20 °C:	0.887 g/cm ³
Relative density:	Not determined.
Vapour density:	Not applicable.
Particle characteristics:	
See section 3.	

9.2 Other information:

Appearance:

Form: Solid

(Contd. on page 6)

**Safety data sheet**

according to 1907/2006/EC, Article 31

Printing date 25.09.2023

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Trade name: **Zerumbone**

(Contd. of page 5)

Important information on protection of health and environment, and on safety.

Ignition temperature:	Not determined.
Explosive properties:	Product does not present an explosion hazard.
Molecular formula	C ₁₅ H ₂₂ O
Molecular weight	218.33 g/mol
Oxidising properties:	Not determined.
Evaporation rate:	Not applicable.

Information with regard to physical hazard classes:

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
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:
- Stable under constant-temperature (see 7.)
- 10.3 Possibility of hazardous reactions: no data available
- 10.4 Conditions to avoid: No further relevant information available.
- 10.5 Incompatible materials: Strong oxidising agents.
- 10.6 Hazardous decomposition products: No data available

EU

(Contd. on page 7)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.09.2023

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Revision: 25.09.2023

Trade name: **Zerumbone**

(Contd. of page 6)

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.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation:

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: May cause an allergic skin reaction.

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: Based on available data, the classification criteria are not met.

Additional toxicological information:

The product should be handled with the care usual when dealing with chemicals.

11.2 Information on other hazards

Endocrine disrupting properties: Substance is not 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:

Due to the distribution coefficient n-octanol/water an accumulation in organisms is possible.

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

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.

Very toxic for aquatic organisms

EU

(Contd. on page 8)

**Safety data sheet**

according to 1907/2006/EC, Article 31

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Trade name: **Zerumbone**

(Contd. of page 7)

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Recommendation:

Dispose product and packaging in accordance with regional environmental laws.

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

UN3077

14.2 UN proper shipping name:

ADR

UN3077 ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S. (Zerumbone)
ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S. (Zerumbone),
MARINE POLLUTANT

IMDG

IATA

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S. (Zerumbone)

14.3 Transport hazard class(es):

ADR, IMDG, IATA



Class

9 Miscellaneous dangerous substances and
articles.

Label

9

14.4 Packing group:

ADR, IMDG, IATA

III

14.5 Environmental hazards:

Marine pollutant:

Yes

Symbol (fish and tree)

Symbol (fish and tree)

Symbol (fish and tree)

Special marking (ADR):

Special marking (IATA):

14.6 Special precautions for user:

Warning: Miscellaneous dangerous substances
and articles.

Hazard identification number (Kemler code): 90

EMS Number:

F-A,S-F

(Contd. on page 9)

EU

**Safety data sheet**

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(Contd. of page 8)

Stowage Category	A
Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
14.7 Maritime transport in bulk according to IMO instruments:	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	5 kg
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000 g
Transport category	3
Tunnel restriction code	(-)
IMDG	
Limited quantities (LQ)	5 kg
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZERUMBONE), 9, III

SECTION 15: Regulatory information

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

Directive 2012/18/EU:

Named dangerous substances - ANNEX I: Substance is not listed.

Seveso category E1 Hazardous to the Aquatic Environment

Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II:

Substance is not listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3)):

Substance is not listed.

(Contd. on page 10)

—EU—



Safety data sheet

according to 1907/2006/EC, Article 31

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Trade name: **Zerumbone**

(Contd. of page 9)

Annex II - REPORTABLE EXPLOSIVES PRECURSORS: Substance is not listed.

National regulations:

Information about limitation of use:

When using chemicals, legal regulations have to be regarded (chemical law, maternity protection, protection of minors).

Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

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.

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

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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Sens. 1: Skin sensitisation – Category 1

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

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