

# Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 12.08.2024

Version: 4.1

Product: **Nerolidol**

(ID no. 30034996/SDS\_GEN\_00/EN)

Date of print 19.10.2025

## 1. Identification

### Product identifier

### Nerolidol

Chemical name: 3,7,11-Trimethyldodeca-1,6,10-trien-3-ol,mixed isomers

CAS Number: 7212-44-4

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Chemical, Chemical for detergents, Cosmetic and oral care chemical, flavoring substance

### Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

### Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## 2. Hazards Identification

## Classification of the substance or mixture

### According to UN GHS criteria

Eye Dam./Irrit. 2B

Skin Sens. 1B

Aquatic Acute 1

Aquatic Chronic 1

M-factor acute: 1

M-factor chronic: 1

For the classifications not written out in full in this section the full text can be found in section 16.

## Label elements

### Globally Harmonized System (GHS)

#### Pictogram:



#### Signal Word:

Warning

#### Hazard Statement:

H320

Causes eye irritation.

H317

May cause an allergic skin reaction.

H400

Very toxic to aquatic life.

H410

Very toxic to aquatic life with long lasting effects.

#### Precautionary Statements (Prevention):

P280

Wear protective gloves.

P273

Avoid release to the environment.

P261

Avoid breathing mist or vapour or spray.

P272

Contaminated work clothing should not be allowed out of the workplace.

P264

Wash contaminated body parts thoroughly after handling.

#### Precautionary Statements (Response):

P305 + P351 + P338

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

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P333 + P313

If skin irritation or rash occurs: Get medical attention.

P391

Collect spillage.

P362 + P364

Take off contaminated clothing and wash it before reuse.

P337 + P313

If eye irritation persists: Get medical attention.

#### Precautionary Statements (Disposal):

P501

Dispose of contents and container to hazardous or special waste collection point.

## Other hazards

### According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

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## 3. Composition/Information on Ingredients

### Substances

#### Chemical nature

3,7,11-Trimethyldodeca-1,6,10-trien-3-ol,mixed isomers

CAS Number: 7212-44-4

EC-Number: 230-597-5

#### Hazardous ingredients (GHS)

According to UN GHS criteria

3,7,11-Trimethyldodeca-1,6,10-trien-3-ol,mixed isomers

Content (W/W):  $\geq 75\%$  -  $\leq 100\%$     Eye Dam./Irrit. 2B  
Skin Sens. 1B

CAS Number: 7212-44-4

EC-Number: 230-597-5

Aquatic Acute 1

Aquatic Chronic 1

M-factor acute: 1

M-factor chronic: 1

H320, H317, H400, H410

6,10-Dimethylundeca-5,9-dien-2-one

Content (W/W):  $> 0\%$  -  $< 3\%$

CAS Number: 689-67-8

EC-Number: 211-711-2

Skin Corr./Irrit. 2

Aquatic Acute 2

Aquatic Chronic 2

H315, H401, H411

For the classifications not written out in full in this section the full text can be found in section 16.

### Mixtures

Not applicable

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## 4. First-Aid Measures

### Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

### Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

### Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:

carbon dioxide, dry powder, foam

Unsuitable extinguishing media for safety reasons:

water

### Special hazards arising from the substance or mixture

carbon oxides, harmful vapours

The substances/groups of substances mentioned can be released in case of fire.

### Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

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## 6. Accidental Release Measures

### **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective clothing. Information regarding personal protective measures, see section 8. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray.

### **Environmental precautions**

Do not discharge into drains/surface waters/groundwater. Inform authorities in the event of product spillage to water courses or sewage systems.

### **Methods and material for containment and cleaning up**

For small amounts: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations.

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## 7. Handling and Storage

### **Precautions for safe handling**

Ensure thorough ventilation of stores and work areas. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed.

Protection against fire and explosion:

Take precautionary measures against static discharges. Avoid all sources of ignition: heat, sparks, open flame.

### **Conditions for safe storage, including any incompatibilities**

Further information on storage conditions: Keep at temperature not exceeding 50°C. Keep in a cool, well-ventilated place. Keep container tightly closed and dry.

### **Specific end use(s)**

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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## 8. Exposure Controls/Personal Protection

### **Control parameters**

#### Components with occupational exposure limits

No substance specific occupational exposure limits known.

## Exposure controls

### Personal protective equipment

#### Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

#### Hand protection:

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

#### Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

#### Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

### General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. Wearing of closed work clothing is recommended. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

State of matter:	liquid	
Form:	liquid	
Colour:	colourless to yellow	
Odour:	flowery	
Odour threshold:	< 100 ppm	
glass transition temperature:	-90 °C (1.013 hPa)	(OECD Guideline 102)
Boiling point:	276 °C (1.013,25 hPa) Literature data.	
Flammability:	hardly combustible	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	

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Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	125 °C	(ISO 2719)
Auto-ignition temperature:	237 °C	(Directive 84/449/EEC, A.15)
Thermal decomposition:	385 °C (DSC (OECD 113))	
pH value:	6,3 (14,1 mg/l, 20 °C)	
Viscosity, kinematic:	15,8 mm <sup>2</sup> /s (20 °C)	(OECD Guideline 114)
	6,41 mm <sup>2</sup> /s (40 °C)	(OECD Guideline 114)
Viscosity, dynamic:	13,8 mPa.s (20 °C)	(OECD Guideline 114)
	5,50 mPa.s (40 °C)	(OECD Guideline 114)
Solubility in water:		(Directive 92/69/EEC, A.6)
	14,1 mg/l (20 °C, pH 6,3)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	4,5 (24 °C; pH value: approx. 7)	(Directive 92/69/EEC, A.8)
Vapour pressure:	0,0024 hPa (20 °C)	(OECD Guideline 104)
Relative density:	0,88 (20 °C)	
	Literature data.	
Density:	0,88 g/cm <sup>3</sup> (20 °C)	
	Literature data.	
	0,85 g/cm <sup>3</sup> (50 °C)	
Relative vapour density (air):	7,66 (20 °C)	(calculated)
	Heavier than air.	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

**9.2. Other information****Information with regard to physical hazard classes**Explosives

Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

## Impact sensitivity:

Based on the chemical structure there is no shock-sensitivity.

Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

Pyrophoric properties

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Self-ignition temperature:

Test type: Spontaneous self-ignition at room-temperature.

Based on its structural properties the product is not classified as self-igniting.

Self-heating substances and mixtures

Self heating ability: not applicable, the product is a liquid

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:

Forms no flammable gases in the presence of water.

Corrosion to metals

Corrosive effects to metal are not anticipated.

**Other safety characteristics**

pKA:

The substance does not dissociate.,  
Study scientifically not justified.

Adsorption/water - soil:

KOC: 1332; log KOC: 3,12 (calculated)

Surface tension:

Based on chemical structure, surface activity is not to be expected.

Molar mass:

222,37 g/mol

SAPT-Temperature:

Study scientifically not justified.

Evaporation rate:

Value can be approximated from  
Henry's Law Constant or vapor  
pressure.

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**10. Stability and Reactivity****Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Formation of

Remarks:

flammable gases:

Forms no flammable gases in the  
presence of water.**Chemical stability**

The product is stable if stored and handled as prescribed/indicated.

**Possibility of hazardous reactions**

Strong exothermic reaction.

**Conditions to avoid**

See SDS section 7 - Handling and storage.



## Incompatible materials

Substances to avoid:  
acids, bases

## Hazardous decomposition products

Hazardous decomposition products:  
Acetylene

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# 11. Toxicological Information

## Information on toxicological effects

### Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): > 2.610 mg/kg (BASF-Test)

No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

LD50 rabbit (dermal): > 5.000 mg/kg

No mortality was observed.

### Irritation

Assessment of irritating effects:

Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Respiratory/Skin sensitization

Assessment of sensitization:

Caused skin sensitization in animal studies.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: skin sensitizing (OECD Guideline 429)

Germ cell mutagenicity

## Assessment of mutagenicity:

The substance was not mutagenic in bacteria. No mutagenic effect was found in various tests with mammalian cell culture and mammals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity

## Assessment of carcinogenicity:

No reliable data was available concerning carcinogenic activity.

Reproductive toxicity

## Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

## Assessment of teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

## Assessment of STOT single:

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

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

## Assessment of repeated dose toxicity:

The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.

Aspiration hazard

No aspiration hazard expected.

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## 12. Ecological Information

### Toxicity

## Assessment of aquatic toxicity:

Very toxic (acute effect) to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

## Toxicity to fish:

LC50 (96 h) 1,43 mg/l, Pimephales promelas (Flow through.)  
The details of the toxic effect relate to the nominal concentration.

## Aquatic invertebrates:

EC50 (48 h) 0,510 mg/l, *Daphnia magna* (Directive 79/831/EEC, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic plants:

EC50 (72 h) 2 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:

EC20 (0,5 h) 180 mg/l, activated sludge (OECD Guideline 209, aerobic)

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:

No data available concerning terrestrial toxicity.

Study scientifically not justified.

## **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Readily biodegradable (according to OECD criteria).

Elimination information:

70 - 80 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EEG, C.4-D) (aerobic, activated sludge, domestic)

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

## **Bioaccumulative potential**

Assessment bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is possible.

## **Mobility in soil**

Assessment transport between environmental compartments:

Volatility: The substance will slowly evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is expected.

## **Results of PBT and vPvB assessment**

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

### Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

## 13. Disposal Considerations

### Waste treatment methods

Observe national and local legal requirements.

## 14. Transport Information

### Land transport

#### ADR

UN number or ID number: UN3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (3,7,11-TRIMETHYL-DODECATRIEN-3-OL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

#### RID

UN number or ID number: UN3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (3,7,11-TRIMETHYL-DODECATRIEN-3-OL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

### Inland waterway transport

#### ADN

UN number or ID number: UN3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (3,7,11-TRIMETHYL-DODECATRIEN-3-OL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes

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Special precautions for user:           None known

Transport in inland waterway vessel  
Not evaluated

### **Sea transport**

#### IMDG

UN number or ID number:   UN 3082  
UN proper shipping name:   ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
  N.O.S. (3,7,11-TRIMETHYL-DODECATRIEN-3-OL)

Transport hazard class(es): 9, EHSM  
Packing group:               III  
Environmental hazards:       yes  
                                      Marine pollutant: YES  
Special precautions for user:   EmS: F-A; S-F

### **Air transport**

#### IATA/ICAO

UN number or ID number:   UN 3082  
UN proper shipping name:   ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
  N.O.S. (3,7,11-TRIMETHYL-DODECATRIEN-3-OL)

Transport hazard class(es): 9, EHSM  
Packing group:               III  
Environmental hazards:       yes  
Special precautions for user:   None known

### **Maritime transport in bulk according to IMO instruments**

Maritime transport in bulk is not intended.

### **Further information**

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

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## 15. Regulatory Information

### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

## 16. Other Information

### Assessment of the hazard classes according to UN GHS criteria (most recent version)

M-factor acute: 1

M-factor chronic: 1

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Corr./Irrit.	Skin corrosion/irritation
H320	Causes eye irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H315	Causes skin irritation.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.