

Safety data sheet

Page: 1/14

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

Date / Revised: 10.04.2024

Version: 5.0

Product: **Geraniol Extra**

(ID no. 30035071/SDS_GEN_00/EN)

Date of print 15.10.2025

1. Identification

Product identifier

Geraniol Extra

Chemical name: Geraniol

CAS Number: 106-24-1

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

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 5 (oral)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
Skin Sens. 1
Aquatic Acute 3

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:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
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.
P310	Immediately call a POISON CENTER or physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
------	---

Other hazards

According to UN GHS criteria

High risk of slipping due to leakage/spillage of product.

3. Composition/Information on Ingredients

Substances

Chemical nature

fragrances

Geraniol

CAS Number: 106-24-1

EC-Number: 203-377-1

Hazardous ingredients (GHS)

According to UN GHS criteria

Geraniol

Content (W/W): $\geq 75\%$ - $\leq 100\%$

CAS Number: 106-24-1

EC-Number: 203-377-1

Acute Tox. 5 (oral)

Skin Corr./Irrit. 2

Eye Dam./Irrit. 1

Aquatic Acute 3

Skin Sens. 1

H318, H315, H303, H317, H402

Nerol

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

CAS Number: 106-25-2

EC-Number: 203-378-7

Acute Tox. 5 (oral)

Skin Irrit. 2

Eye Irrit. 2A

Skin Sens. 1B

Aquatic Acute 2

H319, H315, H303, H317, H401

Citronellal

Content (W/W): $> 0\%$ - $< 0,2\%$

CAS Number: 106-23-0

EC-Number: 203-376-6

Flam. Liq. 4

Acute Tox. 5 (oral)

Acute Tox. 5 (dermal)

Skin Irrit. 2

Eye Irrit. 2A

Skin Sens. 1B

Aquatic Acute 2

H227, H319, H315, H317, H303 + H313, H401

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

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately 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.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:

water jet

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 self-contained breathing apparatus and chemical-protective clothing.

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.

6. Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

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

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For large amounts: Dike spillage. Pump off product.

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

Dispose of absorbed material in accordance with regulations.

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. This product may cause irritations; wash your hands after every contact.

Protection against fire and explosion:

Take precautionary measures against static discharges. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect from the effects of light.

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.

8. Exposure Controls/Personal Protection

Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

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:

Tightly fitting safety goggles (splash 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. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. 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:	oil
Colour:	colourless to pale yellow
Odour:	pleasant, sweetish
Odour threshold:	< 100 ppm
Melting point:	-15 °C
	Literature data.
Boiling point:	> 220 °C
	(1.013,25 hPa)
	Cannot be distilled without decomposition at normal pressure.

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

Date / Revised: 10.04.2024

Version: 5.0

Product: **Geraniol Extra**

(ID no. 30035071/SDS_GEN_00/EN)

Date of print 15.10.2025

Boiling range:	229 - 230 °C (1.013 hPa) The substance / product decomposes.	
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.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	108 °C	(ISO 2719, closed cup)
Auto-ignition temperature:	250 °C	(Directive 92/69/EEC, A.15)
Thermal decomposition:	>= 280 °C (DSC (DIN 51007))	
SADT:	> 75 °C	
pH value:	7	
Viscosity, dynamic:	8,21 mPa.s (20 °C) Literature data.	
Solubility in water:	Literature data. 0,1 g/l (25 °C)	
Partitioning coefficient n-octanol/water (log Kow):	2,6 (25 °C)	(OECD Guideline 117)
Vapour pressure:	1 hPa (70,6 °C) 5 hPa (95 °C) 10 hPa (106,9 °C) 0,0000796 hPa (20 °C) Extrapolated value	
Relative density:	0,89 (20 °C) Literature data.	
Density:	0,89 g/cm ³ (20 °C) Literature data.	
Relative vapour density (air):	5,31 (20 °C) Heavier than air.	(calculated)

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:

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

Date / Revised: 10.04.2024

Version: 5.0

Product: **Geraniol Extra**

(ID no. 30035071/SDS_GEN_00/EN)

Date of print 15.10.2025

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

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

No corrosive effect on metal.

Other safety characteristics

pKA:

The substance does not dissociate.

Adsorption/water - soil:

KOC: 70,79; log KOC: 1,85

(calculated)

Surface tension:

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

Molar mass:

154,25 g/mol

Evaporation rate:

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

10. Stability and Reactivity**Reactivity**

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

Corrosion to metals:

No corrosive effect on metal.

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

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

Conditions to avoid

See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:

strong oxidizing agents, acids, bases

Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information**Information on toxicological effects**Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): 3.600 mg/kg

LD50 rabbit (dermal): > 5.000 mg/kg (other)

Irritation

Assessment of irritating effects:

Skin contact causes irritation. May cause severe damage to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. Irritant. (OECD Guideline 404)

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

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible.

Experimental/calculated data:

mouse: skin sensitizing (OECD Guideline 429)

Germ cell mutagenicity

Assessment of mutagenicity:

The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition. Results from a number of mutagenicity studies with microorganisms,

mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

Carcinogenicity

Assessment of carcinogenicity:

In long-term animal studies in which the substance was given by gavage in high doses, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity:

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

Developmental toxicity

Assessment of teratogenicity:

In animal studies the substance did not cause malformations.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

Assessment of repeated dose toxicity:

No substance-specific organotoxicity was observed after repeated administration to animals. After repeated exposure the prominent effect is local irritation.

Aspiration hazard

No aspiration hazard expected.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. Depending on local conditions and existing concentrations, disturbances in the biodegradation process of activated sludge are possible.

Toxicity to fish:

LC50 (96 h) approx. 22 mg/l, *Brachydanio rerio* (OECD 203; ISO 7346; 84/449/EWG, C.1, static)

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

Aquatic invertebrates:

EC50 (48 h) 10,8 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

The statement of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants:

EC50 (72 h) 13,1 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:

EC50 (30 min) 70 mg/l, activated sludge, domestic (DIN EN ISO 8192-OECD 209-88/302/EEC, P. C, aerobic)

EC10 (16 h) 2.544 mg/l, *Pseudomonas putida* (DIN 38412 Part 8, aquatic)

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

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:

No data available.

Study scientifically not justified.

Persistence and degradability**Assessment biodegradation and elimination (H₂O):**

Readily biodegradable (according to OECD criteria).

Elimination information:

90 - 100 % DOC reduction (3 d) (OECD 301 A (new version)) (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 not to be expected.

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 not 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

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

RID

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

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

Date / Revised: 10.04.2024

Version: 5.0

Product: **Geraniol Extra**

(ID no. 30035071/SDS_GEN_00/EN)

Date of print 15.10.2025

Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

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

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

Date / Revised: 10.04.2024

Version: 5.0

Product: **Geraniol Extra**

(ID no. 30035071/SDS_GEN_00/EN)

Date of print 15.10.2025

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:

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Aquatic Acute	Hazardous to the aquatic environment - acute
Skin Irrit.	Skin irritation
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H318	Causes serious eye damage.
H315	Causes skin irritation.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.
H319	Causes serious eye irritation.
H401	Toxic to aquatic life.
H227	Combustible liquid.
H303 + H313	May be harmful if swallowed or in contact with skin.

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.