

Safety data sheet

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BASF Company Ltd. Safety data sheet

Date / Revised: 26.12.2022

Product: **Geraniol 60**

Version: 1.0

This is a translation of the country-specific safety data sheet into a language other than that required by law. It does not replace the safety data sheet prepared in accordance with Article 110 of the Industrial Safety and Health Law.

(30035070/SDS_GEN_KR/EN)

Date of print 21.10.2025

1. Substance/preparation and company identification

Geraniol 60

Use: Chemical, Chemical for detergents, Cosmetic and oral care chemical, flavoring substance

Manufacturer/supplier:

BASF Company Ltd.
14-16F. KCCI Bldg., 39, Sejong-daero,
Jung-gu, Seoul
REPUBLIC OF KOREA
04513
Telephone: +82 2 3707-3100 / -7500 (Prod.Inq.)
Telefax number: +82 2 3707-3122
E-mail address: Chemregulation-KR@basf.com

Emergency information:

Local emergency number:
Telephone: 080 770 3100 (Accident Reception)
International emergency number:
Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:

Skin corrosion/irritation: Cat. 2

Serious eye damage/eye irritation: Cat. 1

Skin sensitization: Cat. 1

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Label elements and precautionary statement:

Pictogram:



Signal Word: Danger

Hazard Statement:

- | | |
|------|--------------------------------------|
| H318 | Causes serious eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |

Precautionary Statements (Prevention):

- | | |
|------|--|
| P280 | Wear protective gloves and eye protection or face protection. |
| 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. |
| 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 which do not result in classification:

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.

3. Composition/information on ingredients

Chemical nature

Isomer blend based on:

geraniol

CAS Number: 106-24-1
ECL-Number: KE-11596

2,6-Octadien-1-ol, 3,7-dimethyl-, (Z)-

CAS Number: 106-25-2
ECL-Number: KE-11600

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Hazardous ingredients

geraniol

(Synonym name: (E)-3,7-Dimethyl-2,6-octadien-1-ol)

Content (W/W): $\geq 50\%$ - $< 75\%$

CAS Number: 106-24-1

KE number: KE-11596

2,6-Octadien-1-ol, 3,7-dimethyl-, (Z)-

(Synonym name: (Z)-3,7-Dimethyl-2,6-octadien-1-ol; Nerol)

Content (W/W): $\geq 25\%$ - $< 50\%$

CAS Number: 106-25-2

KE number: KE-11600

3,7-Dimethyl-octen-6-ol-1

(Synonym name: 3,7-Dimethyl-6-octen-1-ol; Citronellol)

Content (W/W): $\geq 1\%$ - $< 5\%$

CAS Number: 106-22-9

KE number: KE-11671

3,7-dimethyl-2,6-octadien-1-al

(Synonym name: 3,7-Dimethyl-2,6-octadialenal; Citral; Citral)

Content (W/W): $\geq 0.1\%$ - $< 1\%$

CAS Number: 5392-40-5

KE number: KE-11579

Composition information in accordance with Article 104 of the Industrial Safety and Health Law.
However, it will be stated as blank in section 3 if there is no substance to be disclosed.

4. First-Aid Measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

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:

Rinse mouth and then drink 200-300 ml of water.

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Most important symptoms/effects, 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 immediate medical attention and notes for physician:

Hazards: No data available.

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

5. Fire-Fighting Measures

Suitable (and inappropriate) extinguishing media:

Suitable extinguishing media:

water spray, dry powder, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:

water jet

Specific hazards:

carbon oxides, harmful vapours

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

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:

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.

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Methods for cleaning up or taking 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.

7. Handling and Storage

Precautions for safe handling:

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. Avoid all sources of ignition: heat, sparks, open flame.

Conditions for safe storage, including any incompatibilities:

Storage

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

8. Exposure controls and personal protection

Exposure limits, biological limit values etc.:

Components with occupational exposure limits:

3,7-dimethyl-2,6-octadien-1-al, 5392-40-5;

TWA value 5 ppm (ACGIHTLV), Inhalable fraction and vapor

Skin Designation (ACGIHTLV), Inhalable fraction and vapor

Danger of cutaneous absorption

Skin Designation (ACGIHTLV), Inhalable fraction and vapor

Danger of cutaneous absorption

Biological Limit:

No data available.

Engineering Controls:

Use adequate exhaust ventilation to keep airborne concentration below exposure limits.

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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 (cage goggles) (e.g. EN 166) and face shield.

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

Form:	liquid
Colour:	colourless
Odour:	flowery
Odour threshold:	< 100 ppm
Melting temperature:	< -15 °C (1,013 hPa) The statements are based on the properties of the individual components.
Boiling point:	225 - 230 °C (1,008 - 1,013 hPa) The statements are based on the properties of the individual components.

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Flash point:	107 - 108 °C The product has not been tested. The statement has been derived from the properties of the individual components.	(Directive 92/69/EEC, A.9)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability (solid/gas):	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.	
Ignition temperature:	246 - 250 °C The product has not been tested. The statement has been derived from the properties of the individual components.	(Directive 92/69/EEC, A.15)
Thermal decomposition:	approx. 280 °C	(DSC (DIN 51007))
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Self heating ability:	not applicable, the product is a liquid	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	
Vapour pressure:	0.000076 - 0.01 hPa (20 °C) The product has not been tested. The statement has been derived from the properties of the individual components.	

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Density:	0.87 - 0.89 g/cm ³ (20 °C) The statements are based on the properties of the individual components.	
Relative density:	0.87 - 0.89 (20 °C) Literature data.	
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(calculated)
Solubility in water:	The statements are based on the properties of the individual components. 100 - 769 mg/l (20 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Pow):	2.7 (20 °C) Information based on the main component/s.	(OECD Guideline 117)
Adsorption/water - soil:	KOC: 70.79; log KOC: 1.85	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Viscosity, dynamic:	6.75 - 8.21 mPa.s (20 °C)	
Viscosity, kinematic:	No data available.	
Molar mass:	No data available.	

10. Stability and Reactivity

Chemical stability: please refer to section 7

Conditions to avoid:

See SDS section 7 - Handling and storage.

Substances to avoid:

strong oxidizing agents, acids, bases

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Corrosion to metals: Corrosive effects to metal are not anticipated.

Hazardous reactions:

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

Hazardous decomposition products:

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

11. Toxicological Information

Information on the likely routes of exposure:

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

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute toxicity

Acute toxicity (including STOT (single exposure)):

LD50 rat (oral): 3,600 mg/kg

The product has not been tested. The statement has been derived from the properties of the individual components.

Acute toxicity (including STOT (single exposure)):

(by inhalation): No data available.

Acute toxicity (including STOT (single exposure)):

LD50 rabbit (dermal): > 5,000 mg/kg

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation

Assessment of irritating effects:

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

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

The product has not been tested. The statement has been derived from the properties of the individual components.

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

The product has not been tested. The statement has been derived from the properties of the individual components.

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible.

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mouse: skin sensitizing (OECD Guideline 429)

The product has not been tested. The statement has been derived from the properties of the individual components.

Repeated dose toxicity (including STOT 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. The product has not been tested. The statement has been derived from the properties of the individual components.

Aspiration hazard:

No aspiration hazard expected.

Germ cell mutagenicity

Assessment of mutagenicity:

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. 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:

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:

Repeated dermal uptake of the substance did not cause damage to the reproductive organs. The results were determined in a Screening test (OECD 421/422).

Developmental toxicity

Assessment of teratogenicity:

In animal studies the substance did not cause malformations.

Specific target organ systemic 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.

Specific target organ systemic toxicity (repeated exposure):

please refer to Repeated dose toxicity

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Numerical measures of toxicity (such as acute toxicity estimates)

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:

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

Toxicity to fish:

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

The details of the toxic effect relate to the nominal concentration. The product has not been tested.

The statement has been derived from the properties of the individual components.

LC50 (96 h) 3.2 mg/l, *Pimephales promelas* (EPA 72-1, Flow through.)

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.

Aquatic plants:

EC50 (72 h) 13.1 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:

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

The details of the toxic effect relate to the nominal concentration. The product has not been tested.

The statement has been derived from the properties of the individual components.

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:

Study scientifically not justified.

Mobility

Assessment transport between environmental compartments:

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

Adsorption to solid soil phase is not expected.

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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)
The product has not been tested. The statement has been derived from the properties of the individual components.

Assessment of stability in water:

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

Bioaccumulation potential

Assessment bioaccumulation potential:

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

Bioaccumulation potential:

No data available.

Additional information

Other ecotoxicological advice:

No data available.

13. Disposal Considerations

Disposal method:

Observe national and local legal requirements.

Disposal consideration:

All waste produced at Site must be treated by authorized waste treatment company.

Should be disposed in compliance with national and local regulations

14. Transport Information**Domestic transport:**

UN number or ID number	Not classified as a dangerous good under transport regulations
UN proper shipping name:	Not applicable
Hazard class:	Not applicable
Hazard label:	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

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Special precautions for user None known

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
 Hazard class: Not applicable
 Hazard label: 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
 Hazard class: Not applicable
 Hazard label: Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user None known

Further information:

No data available.

15. Regulatory Information**National legislation/Regulations**

Industrial Safety and Health Law (South Korea):

The product is classified as hazardous by ISHL in Korea.

Hazardous Factors to be taken working environment measurement: no

Controlled Hazardous substances: no

Hazardous Factors to be taken special medical check: no

Special Controlled Hazardous substance: no

Control parameters such as occupational exposure limit: no

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Chemicals Control Act (South Korea):**Toxic Substances:**

This product does not contain toxic substances exceeding the concentration limit

Substances subject to authorization:

This product does not contain substances subject to authorization exceeding the concentration limit

Restricted substances:

This product does not contain restricted substances exceeding the concentration limit

Prohibited substances:

This product does not contain prohibited substances exceeding the concentration limit

Substances requiring preparation for accidents:

This product does not contain substances requiring preparation for accidents exceeding the concentration limit

Dangerous Goods Control Law (Korea):

4th group (Petroleum Group 3), Water soluble liquid, Hazard Category III

Waste management law (Korea):

All national and local regulations of this product should be observed and dispose in accordance with relevant regulations

Other regulations

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

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

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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.