

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 30.05.2023

Version: 2.1

Product: **Geranyl Acetone**

(ID no. 30034989/SDS_GEN_00/EN)

Date of print 11.10.2025

1. Identification

Product identifier

Geranyl Acetone

Chemical name: 6,10-Dimethylundeca-5,9-dien-2-one

CAS Number: 689-67-8

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

Relevant identified uses: Chemical, Chemical for detergents, Chemical for soaps, detergents and cosmetic

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

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Skin Corr./Irrit. 2
 Aquatic Acute 2
 Aquatic Chronic 2

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:

H315	Causes skin irritation.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P273	Avoid release to the environment.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical attention.
P391	Collect spillage.
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.
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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.

3. Composition/Information on Ingredients

Substances

Chemical nature

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6,10-Dimethylundeca-5,9-dien-2-one
CAS Number: 689-67-8
EC-Number: 211-711-2

Hazardous ingredients (GHS)

According to UN GHS criteria

6,10-Dimethylundeca-5,9-dien-2-one	
Content (W/W): $\geq 75\%$ - $\leq 100\%$	Skin Corr./Irrit. 2
CAS Number: 689-67-8	Aquatic Acute 2
EC-Number: 211-711-2	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

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 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. 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.

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

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Further information on storage conditions: Keep at temperature not exceeding 50°C. Keep in a cool, well-ventilated place. Do not keep the container sealed.

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

Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. 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 based on level of activity and exposure.

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

Information on basic physical and chemical properties

Form:	liquid
Colour:	colourless
Odour:	flowery

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Odour threshold:	< 100 ppm	
pH value:	4,2	
	(0,039 g/l, 25 °C)	
Melting point:	6,85 °C	
Boiling point:	approx. 245 °C	
	(1.006 hPa)	
Flash point:	112 °C	(DIN 51758)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	hardly combustible	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	240 °C	(DIN 51794)
Vapour pressure:	0,033 hPa	(calculated)
	(25 °C)	
Density:	0,86 - 0,87 g/cm ³	
	(20 °C)	
	Literature data.	
Relative density:	0,86 - 0,87	
	(20 °C)	
	Literature data.	
Relative vapour density (air):	> 1	(calculated)
	(20 °C)	
	Heavier than air.	
Solubility in water:	8,867 mg/l	
	(25 °C)	
Solubility (qualitative) solvent(s):	organic solvents	
	soluble	
Partitioning coefficient n-octanol/water (log Kow):	4,36	(calculated)
	(25 °C)	
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	300 °C (DSC (DIN 51007))	
Viscosity, dynamic:	2,4 mPa.s	
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.	

Other information

Adsorption/water - soil: KOC: 740,5; log KOC: 2,87 (calculated)

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Surface tension:

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

Grain size distribution:

The substance / product is marketed or used in a non solid or granular form.

Molar mass:

194,32 g/mol

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

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.

Experimental/calculated data:

LD50 rat (oral): > 6.800 mg/kg (BASF-Test)

No mortality was observed.

(by inhalation): No data available.

LD50 rabbit (dermal): > 5.000 mg/kg

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Irritation

Assessment of irritating effects:

Skin contact causes irritation. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (BASF-Test)

Serious eye damage/irritation rabbit: non-irritant (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

A controlled medical study in humans did not reveal a skin sensitizing effect.

Experimental/calculated data:

human: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:

No mutagenic effect was found in various tests with bacteria and mammals.

Carcinogenicity

Assessment of carcinogenicity:

No data available concerning carcinogenic effects. The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

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

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

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:

Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration hazard

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No data available.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Acutely toxic 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) 6,78 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

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

Aquatic invertebrates:

Study scientifically not justified.

Aquatic plants:

Study scientifically not justified.

Microorganisms/Effect on activated sludge:

EC20 (30 min) approx. 45 mg/l, activated sludge, domestic (DIN EN ISO 8192-OECD 209-88/302/EEC, P. C, static)

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:

Study scientifically not justified.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information:

70 - 80 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

Assessment of stability in water:

Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential:

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

Study scientifically not justified.

Mobility in soil

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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

UN number or ID number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (6,10-DIMETHYLUNDECA-5,9-DIEN-2-ONE)

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. (6,10-DIMETHYLUNDECA-5,9-DIEN-2-ONE)

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

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Inland waterway transport

ADN

UN number or ID number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (6,10-DIMETHYLUNDECA-5,9-DIEN-2-ONE)

Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
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. (6,10-DIMETHYLUNDECA-5,9-DIEN-2-ONE)

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. (6,10-DIMETHYLUNDECA-5,9-DIEN-2-ONE)

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

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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)

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

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:

Skin Corr./Irrit.	Skin corrosion/irritation
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
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.