



SAFETY DATA SHEET

according to Regulation (EC) No.-

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www.markherb.com

Section 1. Product and Company Information

GHS Product Name: β -Caryophyllene
Product Code: TER-16-5000
CAS: [87-44-5]
Molecular Formula: C₁₅H₂₄
(-)-trans-Caryophyllene; trans-(1R,9S)-8-Methylene-4,11,11-trimethylbicyclo[7.2.0]undec-4-ene; *trans*-Caryophyllene;
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Section 2. Hazards Identification

2.1 GHS classification

PHYSICAL HAZARDS Skin Sensitization category 1B

HEALTH HAZARDS aspiration toxicity, category 1

ENVIRONMENTAL HAZARDS Not classified

2.2 GHS label elements, including precautionary statements

Pictograms or hazard symbols None

Signal word Danger

Hazard statements May cause an allergic skin reaction, May be fatal if swallowed and enters airways

Precautionary statements

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

IF ON SKIN: Wash with plenty of soap and water

If skin irritation or rash occurs: Get medical advice/attention

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Wash contaminated clothing before reuse

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)None identified

Section 3. Information on Basic Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	< 25 °C
Boiling Point:	253 - 262 °C
Flash Pt:	104 °C
Evaporation Rate:	No data
Flammability (solid, gas):	No data available.
Explosive Limits:	LEL: No data. UEL: No data
Vapor Pressure (vs. Air or mm Hg):	0.1 mbar at 20 °C
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	0.89 - 0.90 g/cm ³
Solubility in Water:	No data
Solubility Notes:	Chloroform, MeOH
Autoignition Pt:	No data
Percent Volatile:	No data
Partition coefficient:	No data
pH:	No data

Section 4. First aid measures**Description of first aid measures****If inhaled**

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

In case of skin contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see **section 2.2**).

Indication of any immediate medical attention and special treatment needed

No data available

Section 5. Fire Fighting Measures**Suitable extinguishing**

Media: Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special protective:

equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Should not be released into the environment.

General Information:

Use proper personal protective equipment as indicated in **Section 8**.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete.

Section 7. Handling and Storage

Precautions for safe handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

Storage:

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Protect from direct sunlight

Specific end uses

Use in a laboratory fume hood where possible. Refer to employer is COSHH risk assessment.

Section 8. Exposure Controls / Personal Protection

Engineering controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Control parameters: Not set up

Personal protective equipment:

Respiratory protection: Dust respirator. Follow local and national regulations.

Hand protection: Protective gloves.

Eye protection: Wear safety glasses and chemical goggles if splashing is possible.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Section 9. Stability and Reactivity

Reactivity

Stable under recommended transport or storage conditions.

Chemical Stability

Stable under normal temperatures and pressures. Light sensitive

Conditions to Avoid

Incompatible products. Excess heat. Exposure to light. Keep away from open flames, hot surfaces and sources of ignition.

Incompatibilities with Other Materials

Strong oxidising/reducing agents

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO₂) Nitrogen oxides, nitrogen.

Hazardous Polymerization

Has not been reported.

Section 10. Toxicological Information

Acute Toxicity:	No data
Skin corrosion/irritation:	May cause sensitization by skin contact
Serious eye damage/irritation:	No data
Germ cell mutagenicity:	No data
Carcinogenicity:	IARC = No data NTP = No data
Reproductive toxicity:	No data

Section 11. Ecological Information

Toxicity:	No data
Persistence and degradability:	Persistence is unlikely
Bioaccumulative potential:	No data
Mobility in soil:	No data
Results of PBT & vPvB assessment:	No data
Other adverse effects:	May be harmful to the aquatic environment.

Section 12. Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Section 13. Transport Information**Hazards Class**

Does not meet the criteria for classification as hazardous for transport.

UN proper shipping name ADR/RID

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Transport hazard class(es)

Does not meet the criteria for classification as hazardous for transport.

Section 14. Regulatory Information

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

no data

Chemical Safety Assessment

no data

Section 15. Additional Information

This MSDS above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

-----End of safety data sheet-----