HIMALAYA TERPENES PVT. LTD.
201, Building No. 5, Jogani Industrial Estate, V. N. Purav Marg, Chunabhatti Mumbai – 400022.
Tel: +91-22-35397805 Email: info@himalayaterpene.com

Material Safety Data Sheet
Gamma Terpinene

SECTION 1.1 – PRODUCT IDENTIFICATION

Product Name	:	Gamma Terpinene
Molecular Formula	:	$C_{10}H_{16}$
Molecular Weight	:	136.23
CAS No.	:	99-85-4
Purity	:	90%, 95 - 96% /97%/98%

SECTION: 1.2 – COMPANY IDENTIFICATION

Name of Manufacturer: Himalaya Terpenes Pvt Ltd
Address: UNIT NO. 201, BLDG. NO. 5, JOGANI INDL. COMPLEX, V. N. PURAV MARG, SION – CHUNABHATTI, MUMBAI – 400 022
Telephone: +91-22-35397805

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS#	% by Weight
Gamma Terpinene	99-85-4	100

SECTION 3: HAZARD IDENTIFICATION

3.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 Flammable liquids (Category 3), H226
Aspiration hazard (Category 1), H304
For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)

H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and

	other ignition sources. No smoking.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P331 Do NOT induce vomiting.
P370 + P378	In case of fire: Use dry powder or dry sand to extinguish.
Supplemental Hazard Statements	none

3.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 4: FIRST AID MEASURES

4.1 Description of first-aid measures

General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 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) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE AND EXPLOSION DATA

5.1 Extinguishing media Suitable extinguishing media Dry powder
Dry sand **Unsuitable extinguishing media** Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 3.2

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Recommended storage temperature 2 - 8 °C
Store under inert gas. Air sensitive.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0,4 mm Break through time: 480 min Material tested:Camatril®

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 30 min
Material tested: Dermatril® data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) **Appearance**	Form: clear, liquid Color: colorless
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	182 °C - lit.
g) Flash point	50 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid,gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	0,9 hPa at 20 °C
l) Vapor density	4,7 - (Air = 1.0)
m) Relative density	0,85 g/mL at 25 °C
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Relative vapor Density	4,7 - (Air = 1.0)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
Heat, flames and sparks.
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - female - > 2.000 mg/kg (OECD Test Guideline 433)
Inhalation: No data available
LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402) **Skin corrosion/irritation** Skin - human skin
Result: No skin irritation - 60 min (OECD Test Guideline 435)
Serious eye damage/eye irritation
Eyes - Bovine cornea
Result: No eye irritation - 1 h (OECD Test Guideline 437) **Respiratory or skin sensitization** No data available
Germ cell mutagenicity
No data available Ames test
Salmonella typhimurium
Result: negative
gene mutation test
mouse lymphoma cells
Result: negative
Micronucleus test mouse lymphoma cells
Result: negative

Carcinogenicity
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity
Suspected of damaging the unborn child. **Specific target organ toxicity - single exposure** No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
Repeated dose toxicity - Rat - female - Oral - 28 d - NOAEL (No observed adverse effect level) - 100 mg/kg
RTECS: OS8070000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 - Danio rerio (zebra fish) - 2,792 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 10,189 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	EC50 - Scenedesmus capricornutum (fresh water algae) - > 10,82 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 27 % - Not readily biodegradable. (OECD Test Guideline 301F)

12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects
No data available

SECTION 13: DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 2319 IMDG: 2319 IATA: 2319

14.2 UN proper shipping name

ADR/RID: TERPENE HYDROCARBONS, N.O.S.
IMDG: TERPENE HYDROCARBONS, N.O.S.
IATA: Terpene hydrocarbons, n.o.s.

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: OTHER REGULATORY INFORMATION

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical Safety Assessment

For this product a chemical afety assessment was not carried out.

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Tel : +91-22-24056704/05 Fax: +91-22-24056700 Email : mum@himalayaterpene.com

SECTION 16: ADDITIONAL INFORMATION

This information is provided for documentation purposes only.
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