

TURPENTINE OIL

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

TURPENTINE OIL
Gum turpentine; Oil of turpentine; Wood turpentine
CAS: 8006-64-2

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Solvent/thinner for paints, varnishes and polishes; raw material for synthetic camphor, terpene resins, insecticide and fragrance intermediates; cleaning solvent. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Flam. Liq. 3	Flammable liquid, Category 3, H226
Skin Sens. 1	Skin sensitisation, Category 1, H317
Asp. Tox. 1	Aspiration hazard, Category 1, H304
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic hazard, Category 2, H411

2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

Flam. Liq. 3: H226 – Flammable liquid and vapour.
Skin Sens. 1: H317 – May cause an allergic skin reaction.
Asp. Tox. 1: H304 – May be fatal if swallowed and enters airways.
Aquatic Chronic 2: H411 – Toxic to aquatic life with long lasting effects.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing vapours/mist.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P331: Do NOT induce vomiting.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P370+P378: In case of fire: Use dry chemical powder, foam or carbon dioxide to extinguish.
P403+P235: Store in a well-ventilated place. Keep cool.
P501: Dispose of contents/container in accordance with local regulations.

2.3 Other hazards which do not result in classification:

Strong, characteristic pine-like odour; vapour may cause headache/narcotic effects at high concentrations in poorly ventilated spaces.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Natural terpene solvent – volatile oil obtained by distillation of pine oleoresin (gum) or wood, consisting mainly of alpha-pinene and beta-pinene with minor terpene constituents.
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 8006-64-2	Turpentine Oil – Flam. Liq. 3: H226; Skin Sens. 1: H317; Asp. Tox. 1: H304; Aquatic Chronic 2: H411 – Danger	≥ 99%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide fresh air and keep at rest. Seek medical attention if symptoms (headache, dizziness, respiratory irritation) persist.

By skin contact:

Remove contaminated clothing. Wash skin thoroughly with soap and water. Seek medical advice/attention if a rash, redness or allergic reaction develops.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

By ingestion/aspiration:

Do NOT induce vomiting – there is a serious risk of aspiration into the lungs, which may be fatal. Rinse mouth with water. Seek immediate medical attention/Poison Centre advice.

4.2 Most important symptoms/effects, acute and delayed:

May cause an allergic skin reaction on repeated contact. Vapour may cause headache, dizziness and respiratory irritation. May be fatal if swallowed and enters the airways (aspiration into lungs causing chemical pneumonitis). Acute and delayed effects are further indicated in section 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Do not induce vomiting due to aspiration risk. Contact a Poison Information Centre in case of accidental ingestion.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Foam (AFFF), dry chemical powder (ABC), carbon dioxide (BC), water fog/spray

Unsuitable: High-pressure water jet (may spread fire)

5.2 Specific hazards arising from the chemical:

Flammable liquid and vapour. Vapour may form explosive mixtures with air and can travel to an ignition source and flash back. Containers may build up pressure if exposed to heat/fire.

5.3 Special protective actions for fire-fighters:

Evacuate non-essential personnel. Use self-contained breathing apparatus (SCBA) and full protective clothing in enclosed/confined fire situations. Cool exposed containers with water spray.

Additional provisions:

Contain fire-fighting water run-off to prevent environmental contamination.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Eliminate all ignition sources. Ventilate the area. Avoid breathing vapour and avoid skin contact. Use appropriate PPE (Section 8).

For emergency responders:

Wear suitable protective equipment, including flame-resistant clothing where fire risk exists. Prevent material from entering drains/watercourses.

6.2 Environmental precautions:

Prevent entry into drains, sewers and watercourses – the product is toxic to aquatic life with long-lasting effects. Bund/contain large spills and notify the relevant authority in case of significant release.

6.3 Methods and materials for containment and cleaning up:

Eliminate ignition sources. Contain spill, absorb with inert, non-combustible absorbent material (sand, earth, vermiculite), sweep/shovel into suitable closed, labelled containers for disposal. Ventilate the area after clean-up.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A. General precautions for safe use:

Avoid breathing vapour and avoid repeated/prolonged skin contact (sensitisation potential). Use with adequate ventilation. Keep away from heat and ignition sources.

B. Technical recommendations for the prevention of fires and explosions:

Keep away from open flame, sparks, hot surfaces and other ignition sources; no smoking in handling areas. Use non-sparking tools and bond/ground equipment during transfer to control static discharge.

C. Technical recommendations on general occupational hygiene:

Do not eat, drink or smoke while handling. Wash hands and exposed skin thoroughly after handling. Launder contaminated clothing before reuse.

D. Technical recommendations to prevent environmental risks:

Prevent spillage from entering drains or watercourses. Store in banded areas where large volumes are held.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	5°C
Maximum Temp.	30°C (keep cool, below flash point margin)
Maximum time	12 Months (in original sealed, cool storage; prone to oxidation/resinification over time)

B. General conditions for storage:

Store in tightly closed containers in a cool, well-ventilated place away from direct sunlight, heat and ignition sources. Keep separate from oxidising agents.

7.3 Specific end use(s):

Industrial solvent and chemical intermediate as described in Section 1.2. Except for the instructions already specified, no special recommendations are required.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

Occupational exposure limits applicable to turpentine, as published in widely referenced international OEL lists, used here as reference guidance:

Identification	Occupational Exposure Limit Type	Value
Turpentine Oil CAS: 8006-64-2	Time Weighted average concentration (8 hrs)	100 ppm / 560 mg/m³

8.2 Appropriate engineering controls:

Use local exhaust ventilation where vapour is generated, to keep exposure below the limits in 8.1 and below the lower flammability limit.

B. Respiratory protection:

Use an organic vapour cartridge respirator where exposure limits may be exceeded or ventilation is inadequate.

C. Specific protection for the hands:

Chemical-resistant gloves (e.g. nitrile or Viton); avoid repeated/prolonged skin contact given sensitisation potential. Replace at any sign of degradation.

D. Eye and face protection:

Chemical splash goggles recommended.

E. Bodily protection:

Chemical-resistant, antistatic protective clothing. Launder contaminated clothing before reuse; do not allow soaked clothing to accumulate.

F. Additional emergency measures:

Emergency shower and eyewash stations should be readily available near the work area.

Environmental exposure controls:

Avoid environmental spillage of the product and its container. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Liquid
Appearance	Clear, mobile liquid
Color	Colourless to pale yellow
Odor	Strong, characteristic (pine-like)
Odour threshold	Typical value – refer to current specification sheet
Volatility	
Boiling range at atmospheric pressure	150 – 170°C (typical)
Vapour pressure at 20°C	Approx. 0.3 – 0.6 kPa (typical)
Evaporation rate at 20°C	Moderate (volatile solvent)
Product Description	
Density / Relative density at 20°C	0.86 – 0.87 g/cm³
Dynamic / Kinematic viscosity at 20°C	Typical value – refer to current specification sheet
Concentration	Non-applicable (single substance category)
pH	Not relevant (water-insoluble liquid)
Vapour density at 20°C	> 4 (heavier than air)
Partition coefficient n-octanol/water	> 4 (estimated, terpene hydrocarbon)
Solubility in water at 20°C	Practically insoluble; miscible with alcohol, ether, most organic solvents
Decomposition temperature	Not established
Melting point/freezing point	< -50°C (typical)
Flammability	
Flash Point	32 – 38°C (closed cup, typical)
Flammability (solid, gas)	Non-applicable (liquid)
Autoignition temperature	Approx. 253°C (typical)
Lower / Upper flammability limit	0.8% – 6% v/v (typical)
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

Values are typical for commercial-grade Turpentine Oil – refer to current specification sheet for batch-specific figures.

9.2 Other information:

Explosive properties	Not relevant
Oxidising properties	Not an oxidiser; readily auto-oxidises on prolonged air exposure
Corrosive to metals	Not corrosive
Heat of combustion	Typical value – refer to current specification sheet
Refraction index	1.47 – 1.48 (typical)
Alpha-pinene content	Typical value – refer to current specification sheet

SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity:**
- May react with strong oxidising agents, sometimes vigorously (terpene hydrocarbons are readily oxidisable). Vapour may form explosive mixtures with air.
- 10.2 Chemical stability:**
- Stable under recommended storage conditions. Gradually oxidises/resinifies on prolonged exposure to air and light, with possible peroxide formation.
- 10.3 Possibility of hazardous reactions:**
- Vigorous/exothermic reaction possible with strong oxidisers (e.g. concentrated nitric acid, chromic acid, chlorine). Oil-soaked absorbents may present a self-heating risk analogous to other oxidisable organic liquids.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Avoid prolonged exposure (oxidation/peroxide formation)	Avoid heat/ignition sources (flammable)	Avoid prolonged direct exposure	Not applicable

10.5 Incompatible materials:

Strong Oxidisers	Strong Acids	Ignition Sources
Avoid contact (vigorous reaction)	Avoid contact	Avoid contact (flammable liquid)

- 10.6 Hazardous decomposition products:**
- Thermal decomposition/combustion may generate carbon monoxide, carbon dioxide and irritating smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects:**
- Turpentine oil has a well-documented potential to cause skin sensitisation and is a recognised aspiration hazard if swallowed.
- A. Ingestion (acute effect):**
- May cause gastrointestinal irritation, nausea, vomiting and central nervous system effects at higher doses. Principal hazard is aspiration into the lungs if vomited – may be fatal (chemical pneumonitis).
- B. Inhalation (acute effect):**
- Vapour causes irritation of the respiratory tract; at high concentrations may cause headache, dizziness, narcosis and, in severe cases, kidney effects reported in the toxicological literature for terpene solvents.
- C. Contact with skin and eyes (acute effect):**

Causes skin irritation; may cause an allergic skin reaction (sensitisation) on repeated contact. Causes eye irritation.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

E. Sensitizing effects:

Skin Sens. 1 (H317) – may cause an allergic skin reaction; a well-documented effect of turpentine, mainly attributed to its oxidation products. Respiratory sensitisation classification criteria are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

May cause respiratory tract irritation and CNS effects (headache, dizziness) at high vapour concentrations.

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Asp. Tox. 1 (H304) – may be fatal if swallowed and enters airways, owing to its low viscosity and low surface tension.

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Turpentine Oil CAS: 8006-64-2	LD50 oral: 5000 – 6000 mg/kg (Typical value – refer to current specification sheet)	Rat
	LD50 dermal: > 2000 mg/kg	Rabbit

SECTION 12: ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Acute Toxicity	Species	Genus
LC50: 1 – 10 mg/L (96h) (Typical value – refer to current specification sheet)	Non-applicable	Fish
EC50: 1 – 10 mg/L (48h) (Typical value – refer to current specification sheet)	Non-applicable	Crustacean

12.2 Persistence and degradability:

Expected to be readily to inherently biodegradable (natural terpene hydrocarbon).

12.3 Bioaccumulative potential:

Low to moderate bioaccumulation potential expected; not established.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not established	Significant (volatile)	Moderate mobility	Moderate mobility

12.5 Results of PBT and vPvB assessment:

Does not meet PBT/vPvB criteria.

12.6 Other adverse effects:

Toxic to aquatic organisms; avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dispose of via a licensed waste disposal contractor in accordance with national and local regulations for flammable solvent waste. Do not discharge to drains or watercourses. Empty containers may retain flammable vapour/residue; handle accordingly.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	UN1299
14.2 UN proper shipping name	TURPENTINE
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	UN1299
14.2 UN proper shipping name	TURPENTINE
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	EmS Codes: F-E, S-D
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	UN1299
14.2 UN proper shipping name	TURPENTINE
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

- Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
- The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
- The Petroleum Act, 1934 and Petroleum Rules, 2002 (flammable liquid storage, where applicable)

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

- H226: Flammable liquid and vapour.
- H304: May be fatal if swallowed and enters airways.
- H317: May cause an allergic skin reaction.
- H411: Toxic to aquatic life with long lasting effects.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Training is recommended for staff handling this product, covering fire/flammability precautions, aspiration hazard first-aid response, and PPE requirements, to facilitate comprehension of this safety data sheet and the product label.

Principal bibliographical sources:

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification references for natural terpene solvents.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET