Safety Data Sheet

For INDIA, According to GHS (Rev. 8)

PINE OIL

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

PINE OIL

Terpineol oil; Pine tar oil (terpene alcohol mixture, predominantly α-terpineol)

CAS: 8002-09-3

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Ore flotation (froth flotation collector/frother), solvent, disinfectant & cleaning-fluid fragrance base, textile and paper industry auxiliary, industrial deodorant. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3. Not for food, drug or direct cosmetic application.

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
Asp. Tox. 1	Aspiration hazard, Category 1, H304
Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Irrit. 2	Eye irritation, Category 2, H319
Skin Sens. 1	Skin sensitisation, Category 1, H317
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.
Asp. Tox. 1: H304 – May be fatal if swallowed and enters airways.
Skin Irrit. 2: H315 – Causes skin irritation.
Eye Irrit. 2: H319 – Causes serious eye irritation.
Skin Sens. 1: H317 – May cause an allergic skin reaction.
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.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403+P235: Store in a well-ventilated place. Keep cool.
P501: Dispose of contents/container in accordance with local/regional/national regulations.

2.3 Other hazards which do not result in classification:

Not relevant. Vapours may form flammable/explosive mixtures with air above the flash point.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Pine Oil (mixture of terpene alcohols, principally α-terpineol, obtained by steam distillation/fractionation of pine wood or as a by-product of the Kraft pulping process)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 8002-09-3	Pine Oil (terpene alcohols) — Flam. Liq. 3: H226; Asp. Tox. 1: H304; Skin Irrit. 2: H315; Eye Irrit. 2: H319; Skin Sens. 1: H317; Aquatic Chronic 2: H411 – Danger	≥ 90%

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 to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if discomfort persists.

By skin contact:

Remove contaminated clothing and footwear. Wash skin thoroughly with plenty of water and soap. If irritation or an allergic reaction develops, seek medical advice.

By eye contact:

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

By ingestion/aspiration:

Do NOT induce vomiting due to aspiration hazard. Rinse mouth with water. Seek immediate medical attention, showing this SDS.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11. May cause skin/eye irritation and allergic skin reactions on repeated contact. Aspiration into the lungs during ingestion or vomiting can cause chemical pneumonitis.

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

Treat symptomatically. If aspiration is suspected, monitor for signs of chemical pneumonitis.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Dry chemical powder, carbon dioxide (CO^2), alcohol-resistant foam, dry sand
Unsuitable: Do not use a solid water jet, as it may scatter and spread the fire.

5.2 Specific hazards arising from the chemical:

Flammable liquid. Vapours are heavier than air and may travel along the ground to an ignition source and flash back. Combustion may produce carbon monoxide, carbon dioxide and irritant smoke.

5.3 Special protective actions for fire-fighters:

Evacuate all non-essential personnel. Wear self-contained breathing apparatus (SCBA) and full protective clothing. Cool fire-exposed containers with water spray from a safe distance.

Additional provisions:

Prevent fire-fighting water from entering drains or watercourses. Contain runoff.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Eliminate all ignition sources. Ensure adequate ventilation. Use personal protective equipment as per section 8. Evacuate non-essential personnel.

For emergency responders:

Wear appropriate protective equipment. Prevent access by unprotected persons.

6.2 Environmental precautions:

Prevent entry into drains, sewers, watercourses and soil, as the product is toxic to aquatic organisms. Contain the spill and notify authorities if environmental contamination occurs.

6.3 Methods and materials for containment and cleaning up:

Contain spillage with sand, earth or other inert absorbent material. Collect into suitable closed containers for disposal. Do not use combustible materials for absorption. Ventilate the area.

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:

Handle away from heat, sparks, open flames and other ignition sources. Avoid inhalation of vapours and contact with skin and eyes. Use only with adequate ventilation.

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

Ground and bond containers during transfer operations. Use spark-proof tools and explosion-proof electrical equipment where vapours may accumulate.

C. Technical recommendations on general occupational hygiene:

Do not eat, drink or smoke while handling the product. Wash hands after handling.

D. Technical recommendations to prevent environmental risks:

Prevent spillage from entering drains or watercourses. Follow the protective measures given in section 8.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	5°C
Maximum Temp.	35°C
Maximum time	12 Months (in sealed original containers)

B. General conditions for storage:

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

7.3 Specific end use(s):

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

No specific occupational exposure limit has been established for pine oil under the Factories Act, 1948. Treat as a nuisance vapour/general organic solvent; maintain exposure as low as reasonably practicable.

Identification	Occupational Exposure Limit Type	Value
Pine Oil CAS: 8002-09-3	No established OEL	Not established – apply general dust/vapour limits

8.2 Appropriate engineering controls:

Use local exhaust ventilation where vapours may be generated. Ensure eyewash stations and safety showers are accessible.

B. Respiratory protection:

Not normally required with adequate ventilation. In case of insufficient ventilation, use an organic vapour filter mask.

C. Specific protection for the hands:

Chemical-resistant gloves (nitrile or neoprene). Replace at any sign of degradation.

D. Eye and face protection:

Safety glasses with side shields or chemical splash goggles.

E. Bodily protection:

Antistatic protective clothing and closed footwear. Flame-resistant clothing where flammable atmospheres may be present.

F. Additional emergency measures:

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

Environmental exposure controls:

Avoid environmental spillage of both 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	Colorless to pale yellow
Odor	Characteristic pine/terpene odor
Odour threshold	Not established
Volatility	
Boiling point at atmospheric pressure	175 – 220°C (range, terpene alcohol mixture)
Vapour pressure at 20°C	< 1 mmHg
Evaporation rate at 20°C	Slower than n-butyl acetate
Product Description	
Density / Relative density at 20°C	0.85 – 0.93 g/cm³
Dynamic / Kinematic viscosity	Low viscosity, mobile liquid
Concentration	Not relevant *
pH	Not relevant (water-insoluble organic liquid)
Vapour density at 20°C	> 1 (heavier than air)
Partition coefficient n-octanol/water 20°C	Log Pow ~ 2.7 – 3.3 (typical for terpene alcohols)
Solubility in water at 20°C	Sparingly soluble (~2.5 g/L); miscible with most organic solvents
Decomposition temperature	Not established
Melting point/freezing point	< -50°C
Flammability	
Flash Point	74 – 80°C (closed cup, typical)
Flammability (solid, gas)	Non-applicable (liquid)
Autoignition temperature	≈ 240°C
Lower / Upper flammability limit	0.8% / 6% (v/v, typical terpene range)
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

** Not relevant due to the nature of the product, not providing information on the properties of its hazards.*

9.2 Other information:

Explosive properties	Not explosive
Oxidising properties	Not oxidising
Corrosive to metals	Not corrosive to common metals
Heat of combustion	Not established
Surface tension at 20°C	Not established
Refraction index	~1.48 – 1.49 (typical)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Stable under normal conditions of use and storage. Can react with strong oxidising agents.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use. May darken/oxidise slowly on prolonged exposure to air and light.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Avoid prolonged exposure (slow oxidation)	Danger near ignition sources	Avoid direct/prolonged exposure	No particular hazard

10.5 Incompatible materials:

Strong Oxidising Agents	Strong Acids	Ignition Sources
Avoid contact	Avoid contact	Keep away

10.6 Hazardous decomposition products:

Combustion may produce carbon monoxide, carbon dioxide and irritant smoke/fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect):

Harmful if swallowed. May be fatal if swallowed and enters airways (aspiration hazard) due to low viscosity.

B. Inhalation (acute effect):

Vapours may cause irritation of the respiratory tract and headache/dizziness at high concentrations.

C. Contact with skin and eyes (acute effect):

Causes skin irritation and serious eye irritation. May cause an allergic skin reaction (sensitiser).

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:

May cause an allergic skin reaction (H317) on repeated or prolonged contact.

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

May cause respiratory irritation at high vapour concentrations; not classified based on available data.

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

Classification criteria are not met based on available data.

H. Aspiration hazard:

May be fatal if swallowed and enters airways (H304).

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Pine Oil CAS: 8002-09-3	LD50 oral: ~2500 – 3600 mg/kg (typical for terpene alcohol mixtures)	Rat
	LD50 dermal: >5000 mg/kg	Rabbit
	LC50 inhalation: Not established	–

SECTION 12: ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Pine Oil CAS: 8002-09-3	LC50: 1 – 10 mg/L (96h, typical range for terpene mixtures)	Not specified	Fish
	EC50: 1 – 10 mg/L (48h)	Not specified	Crustacean (Daphnia)

12.2 Persistence and degradability:

Readily biodegradable (terpene alcohols generally biodegrade readily under aerobic conditions).

12.3 Bioaccumulative potential:

Low potential for bioaccumulation expected based on Log Pow; not extensively studied for this mixture.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not established	Not established	Expected to be moderately mobile	Expected to be moderately mobile

12.5 Results of PBT and vPvB assessment:

Not classified as PBT or vPvB based on available data.

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Do not discharge into drains or watercourses. Collect and dispose of via a licensed hazardous waste contractor in accordance with local regulations. Incineration in a permitted facility is the preferred disposal route. Empty containers may retain product residue; handle as contaminated packaging.

Refer to national and local regulations on waste management.

SECTION 14: TRANSPORT INFORMATION

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

14.1 UN number	UN1272
14.2 UN proper shipping name	PINE OIL
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	UN1272
14.2 UN proper shipping name	PINE OIL
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 | Limited quantities: 5 L
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	UN1272
14.2 UN proper shipping name	PINE OIL
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)
Petroleum Rules, 2002 (flammable liquid storage, as 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.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
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:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

Publicly available GHS classification references and standard industrial chemical data compilations for terpene alcohol mixtures (Pine Oil, CAS 8002-09-3).

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 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

END OF SAFETY DATA SHEET