



Safety Data Sheet

01. IDENTIFICATION OF THE SUBSTANCE/PREPARATION & THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name		Turpentine Oil			
Biological Definition		Turpentine, oil. Any of the volatile predominately terpenic fractions or distillates resulting from the solvent extraction of, gum collection from, or pulping of softwoods. Turpentine is a mixture of terpene hydrocarbons obtained from various species of Pinus.			
INCI Name		Turpentine			
Synonyms & Trade Names		Pine Turpentine			
CAS-No	8006-64-2 / 9005-90-7 / 8052-14-0	EC No.	232-350-7 / 232-688-5 / -	EINECS No.	232-350-7 / 232-688-5 / -
1.2 Relative identified uses of the substance or mixture and uses advised against					
No additional data available.					
1.3 Details of the supplier of the safety data sheet					
Golden Bough Botanicals Inc 12-1585 Cliveden Ave Delta BC V3M 6M1et					
1.4 Emergency Tel. No.		604-540-8700 (Monday-Friday 8:30 am-4:30 pm)			

02. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

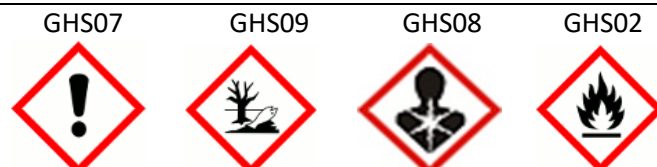
-

Classification (EC 1272/2008)

Flammable Liquid, Category 3 H226: Flammable liquid and vapour
 Acute Oral Toxicity, Category 4 H302: Harmful if swallowed
 Aspiration Toxic, Category 1 H304: May be fatal if swallowed and enters airways
 Acute Dermal Toxicity, Category 4 H312: Harmful if in contact with skin
 Skin Irritant, Category 2 H315: Causes skin irritation
 Skin Sensitizer, Category 1 H317: May cause an allergic skin reaction
 Eye Irritant, Category 2 H319: Causes serious eye irritation
 Acute Inhalation Toxicity, Category 4 H332: Harmful if inhaled
 Chronic Aquatic Toxicity, Category 2 H411: Toxic to aquatic life with long lasting effects

2.2 Label Elements

Label in accordance with (EC) No 1272/2008



Signal Word		Danger
Contains		CAS: 8006-64-2 Turpentine
Hazard Statements		
<p>H226: Flammable liquid and vapour. H302: Harmful if swallowed. H304: May be fatal if swallowed and enters airways. H312: Harmful if in contact with skin. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H332: Harmful if inhaled. H411: Toxic to aquatic life with long lasting effects.</p>		
Precautionary Statements		
<p>P260: Do not breathe dust / fume / gas / mist / vapours / spray. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/ eye protection/ face protection. P210: Keep away from sparks, heat, open flames, hot surfaces. No smoking. P233: Keep container tightly closed. P240: Ground / bond container and receiving equipment. P241: Use explosion proof electrical / ventilating / lighting/ ... / equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static charge. P264: Wash...thoroughly after handling. P270: Do not eat, drink, smoke when using this product.</p>		
Supplementary Precautionary Statements		
<p>P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. P331: Do NOT induce vomiting. P330: Rinse mouth. P302+P352: IF ON SKIN: Wash with plenty of soap and water. P333+P313: If skin irritation or rash occurs: Get medical advice/attention. P362: Take off contaminated clothing and wash before reuse. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present an easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical advice / attention. P370+P378: In case of fire: Use appropriate method for extinction. P403+P235: Store in a well ventilated place. Keep cool. P501: Dispose of contents / container to a waste management service provider.</p>		
2.3 Other Hazards		
PBT or vPvB according to Annex XIII	No additional data available.	
Adverse physio-chemical properties	No additional data available.	
Adverse effects on human health	<p>Serious eye irritation. Harmful by inhalation, in contact with skin and if swallowed. May be fatal if swallowed and enters airways.</p>	

03. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
100% Turpentine Oil CAS-No.: 8006-64-2 EC No.: 232-350-07
Classification (EC 1272/2008) Flam. Liq. 3, Acute Oral, Tox. 4, Asp. Tox. 1, Acute Derm. Tox. 4, Skin Irrit. 2, Skin

Sens. 1, Eye Irrit. 2, Acute, Inhal. Tox. 4, Aqu. Chronic 2; H226, H302, H304, H312, H315, H317, H319, H332, H411

04. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove from exposure site to fresh air and keep at rest. Contact physician if symptoms persist.
Ingestion	Rinse mouth with water and Contact physician if symptoms persist. Do NOT induce vomiting.
Skin Contact	Remove contaminated clothes. Wash thoroughly with water (and soap). Contact physician if symptoms persist.
Eye Contact	Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.

4.2 Most important symptoms and effects, both acute and delayed

Acute (short term):

Contact can irritate the skin and eyes.

Chronic (long term):

If an allergic reaction occurs, low future exposure may cause itching and skin rash.

4.3 Indication of any immediate medical attention and special treatment needed

If symptoms persist, seek medical attention. Provide physician with a copy of this Safety Data Sheet. Eyewash facilities should be available.

05. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media:

Carbon dioxide, dry chemical, foam.

Extinguishing media which shall not be used for safety reasons:

Do not use water directly on burning material.

5.2 Special hazards arising from the product

Hazardous decomposition products: Burning generates CO, CO₂ and acrid smoke.

Combustible vapours heavier than air.

Can form explosive mixtures with air.

May react exothermically with reducing agents to release hydrogen gas.

5.3 Advice for firefighters

Special protective equipment for fire fighting:

Full protective suit.

Self-contained breathing apparatus (EN 133)

Specific fire fighting methods:

Do not use a high powered water jet directly on burning material.

Do not inhale fumes.

Evacuate personnel to a safe area.

Cool containers / tanks with water spray.

06. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition, and keep away from flames and hot surfaces. Avoid inhalation and contact with skin and eyes. Wear appropriate personal protective equipment. A self contained breathing apparatus is recommended in case of a major spill. Collect Spillage.

6.2 Environmental Precautions

Keep away from drains, surface and ground water and soil.

6.3 Methods and material for containment and cleaning up.

Clean up spillage promptly. Remove ignition sources. Provide adequate ventilation. Avoid excessive inhalation of vapours. Gross spillages should be contained by use of sand or inert powder and disposed of according to the local regulations. laws and regulations.

6.4 Reference to other sections

No additional data available.

07. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling:

Avoid contact with the eyes, skin and clothing. Avoid excessive inhalation of concentrated vapours. Follow good manufacturing practices for housekeeping and personal hygiene. Wash any exposed skin immediately after any chemical contact, before breaks and meals, and at the end of each working period. Contaminated clothing and shoes should be thoroughly cleaned before re-use.

If appropriate, procedures used during the handling of this material should also be used when cleaning equipment or removing residual chemicals from tanks or other containers, especially when steam or hot water is used, as this may increase vapour concentrations in the work place air. Where chemicals are openly handled, access should be restricted to properly trained employees.

Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.

Do not pump at high pressure.

Advice on protection against fire and explosion:

Keep away from ignition sources and naked flame. Prevent static build up and discharge. Electrical devices should have flame proof motors.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:

Store in a cool, dry, ventilated area away from heat sources. Keep containers upright and tightly closed when not in use. Do not store in carbon steel tanks.

7.3 Specific end use(s)

No additional data available.

08. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Engineering measures

Advice: Where appropriate, use closed systems to transfer and process this material. If appropriate, isolate mixing rooms and other areas where this material is used or openly handled. Maintain these areas under negative air pressure relative to the rest of the plant. Ensure electrical earthing and flameproof switchgear/motors.

Control Parameters:

Occupational exposures limits/TLV: No data available

TLV (Recommended OEL (TLV)): 100ppm

TLV-TWA (time weighted average): 100ppm 8 hrs

TLV-STEL (short term expos): 150ppm 10 mins

IHI (inhalation hazard index): 18.

8.2 Exposure controls

Protective Equipment



Process Conditions	Provide eyewash station.
Engineering Measures	Provide adequate ventilation.
Respiratory Equipment	<p>Use local exhaust ventilation around open tanks and other open sources of potential exposures in order to avoid excessive inhalation including places where this material is openly weighed or measured.</p> <p>In addition, use general dilution ventilation of the work area to eliminate or reduce possible worker exposures.</p> <p>No respiratory protection is required during normal operations in a workplace where engineering controls such as adequate ventilation, etc. are sufficient.</p> <p>If engineering controls and safe work practices are not sufficient, an approved, properly fitted respirator with organic vapour cartridges or canisters and particulate filters should be used:</p> <p>a) while engineering controls and appropriate safe work practices and/or procedures are being implemented; or</p> <p>b) during short term maintenance procedures when engineering controls are not in normal operation or are not sufficient; or</p> <p>c) if normal operational workplace vapour concentration in the air is increased due to heat;</p> <p>d) during emergencies; or</p> <p>e) if engineering controls and operational practices are not sufficient to reduce airborne concentrations below an established occupational exposure limit.</p>
Hand Protection	Avoid skin contact. Use chemically resistant gloves.
Eye Protection	Avoid contact with the eyes. Use tight-fitting goggles, face shield or safety glasses with side shields.
Other Protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene Measures	<p>Avoid contact with eyes. Ensure that eyewash stations and safety showers are close to the workstation location.</p> <p>Use clean, well-maintained personal protection equipment. Wash hands before breaks and at the end of the work day. Do not eat, drink or smoke whilst using or handling the product.</p> <p>To the extent deemed appropriate, implement pre placement and regularly scheduled ascertainment of symptoms and spirometry testing of lung function for workers who are regularly exposed to this material.</p> <p>To the extent deemed appropriate, use an experienced air sampling expert to identify and measure volatile chemicals that could be present in the workplace air or determine potential exposures and to ensure the continuing effectiveness of engineering controls and operational practices to minimize exposure.</p> <p>Product will de-fat skin; frequent and long term skin contact to be avoided. May cause skin sensitisation or occupational dermatitis, in the case of sensitive skin. In the case of sensitive skin, use barrier cream or moisturizer after contact.</p>
Personal Protection	<p>The protective equipment must be selected in accordance with current CEN standards and in cooperation with the supplier of the protective equipment. Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and / or risks that may occur during use.</p> <p>In December 2003, the National Institute for Occupational Safety and Health (“NIOSH”) PUBLISHED AN Alert on preventing lung disease in workers who use or make flavourings [NIOSH Publication number 2004-110]’</p>

	In August 2004, the United States Flavor and Extract Manufacturers Association (FEMA) issued a report entitled "Respiratory Safety in the Flavor Manufacturing Workplace". Both of these reports provide recommendations for reducing employee exposure and for medical surveillance in the workplace. The recommendations in these reports are generally applicable to the use of any chemical in the workplace and you are strongly urged to review both of these reports.
Skin Protection	Wear apron or protective clothing in case of splashes.
Environmental Exposure Controls	Avoid discharging into drainage water. Only eliminate by authorised companies.

09. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Non viscous liquid.
Colour	Colourless to oily brown.
Odour	Characteristic.
Relative Density	0.855 - 0.939 @ 25°C
Flash Point (°C)	34°C
Refractive Index	1.460 - 1.490 @ 20°C
Melting Point (°C)	-55°C at 760.00 mm Hg.
Boiling Point (°C)	156 - 170°C at 760.00 mm Hg.
Vapour Pressure	4.000 mm/Hg @ 20.00°C..
Solubility in Water @20°C	Soluble in ethanol, but not soluble in water.
Auto-ignition temperature (°C)	No additional data available.

9.2 Other information

No additional data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

May react exothermically with reducing agents to release hydrogen gas.

10.2 Chemical stability

Under normal conditions, the product is stable. It is not an oxygen donor.

10.3 Possible hazardous reactions

Burning generates CO, CO2 and acrid smoke.

10.4 Conditions to Avoid

No additional data available.

10.5 Incompatible materials

Strong oxidizing agents, acids, clays and mineral acids.

10.6 Hazardous Decomposition Products

Hazardous decomposition products are not known.

11. TOXOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity	Routes of administration: Absorption: No data available. Distribution: No data available.
----------------	---

	Metabolism: No data available. Excretion: No data available. LD50 oral (rat): >3,200 mg/kg (OECD 401). Acute inhalation toxicity: 13.5 mg/litre Acute dermal toxicity: LD50 dermal (rabbit): >2,000 mg/kg. (OECD404). Moderate Irritation (RIFM) Full strength 24hr. under occlusion (rabbit) (RIFM).
Skin corrosion / irritation	Skin irritation: Skin Irritant, Category 2 – No data available.
Serious eye damage / irritation	Eye irritation: Irritant effects (RIFM). Full strength to conjunctival sac (rabbit) (TDS).
Respiratory or skin sensitisation	Sensitisation: Skin Sensitizer, Category 1 – No data available.
Germ Cell Mutagenicity	Ames Mutagenicity: Negative. Genotoxicity in vitro: Not found. Genotoxicity in vivo: Not found.
Carcinogenicity	Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity	Impairment of fertility: Based on available data, the classification criteria are not met. Reproductive toxicity: Based on available data, the classification criteria are not met. Developmental toxicity/Teratogenicity: Based on available data, the classification criteria are not met.
STOT-single exposure	No additional data available.
STOT-repeated exposure	No additional data available.
Aspiration hazard	Aspiration Toxic, Category 1 - No data available.
Photo-toxicity	No additional data available.
Other Information	Narcosis: Based on available data the classification criteria are not met. Endocrine disruption potential: No data available. Local effects: Irritating to eyes, skin and mucous membranes. All significant components FEMA listed.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic Compartment (including sediment)
Toxicity to fish: LC-0 26 mg/l
LC-50 33 mg/l
LC-100 43 mg/l
Daphnia toxicity: 10-100 mg/l (WAF) 24 / 28 hour
Algae toxicity: >100 mg/l (WAF) 72 hour Eb / ErC50
Classified as very toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment.

12.2 Persistence & degradability

Biodegradability: Complete in 28 days.
OECD 301E – Readily biodegradable material modified screening test.
OECD 302C – Inherent biodegradability modified MITI test (no 2)

Photo degradability:

Atmospheric half life: c.a. 1 hour

(Note: Turpentine, in common with other terpenes, represents a major sink for the undesirable tropospheric ozone, removing the smog-forming catalyst nitrogen oxides and consuming ozone at an increased rate at night. While the material is photoreactive, the benefits of removing ozone and nitrogen oxides outweigh the negative reaction with hydroxyl radical.).

12.3 Bioaccumulation Potential

No additional data available.

12.4 Mobility in soil

No additional data available.

12.5 Results of PBT and vPvB Assessment

Based on available data the classification criteria are not met.

12.6 Other adverse effects

No additional data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste treatment methods

Product/packaging disposal

Contaminated packaging: If recycling is not practicable, dispose of in accordance with the Environmental Protection (Duty of Care) Regulations 1991.

Waste codes/waste designations according to EWC/AVV: Not applicable.

Waste treatment options

Waste from residues/unused product: Dispose by combustion or in compliance with the Environmental Protection (Duty of Care) Regulations 1991.

Sewage disposal options

None – do not allow product to enter sewer system.

Other disposal recommendations:

No information available.

14. TRANSPORT INFORMATION

14.1 UN number

UN No. Road	1299
-------------	------

UN No. SEA	1299
------------	------

UN No. AIR	1299
------------	------

14.2 UN proper shipping name

TURPENTINE.

14.3 Transport hazard class(es)

ADR/RID/ADN Class; 3 Flammable Liquid

ADR/RID/ADN Class: 3 Flammable Liquid

IMDG Class: 3 Flammable Liquid

ICAO Class/Division: 3 Flammable Liquid

Transport Labels



Tunnel Restriction Code – D-E

14.4 Packing group

ADR/RID/ADN Packing group III
IMDG Packing group III
ICAO Packing group III

14.5 Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



14.6 Special precautions for user

See sections 6-8.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Packed and transferred according to transport regulations.

15. REGULATORY INFORMATION

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

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Guidance Notes

Workplace Exposure Limits EH40. CHIP for everyone HSG(108).

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2 Chemical safety assessment

No additional information available.

16. OTHER INFORMATION

Hazard and/or Precautionary Statements in Full

H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H312: Harmful if in contact with skin.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H411: Toxic to aquatic life with long lasting effects.

Other Information	-
Revision Date	November 27, 2015
Reason for revision	New SDS
Rev No/Repl, SDS Generated	01

DISCLAIMER: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.