

# SAFETY DATA SHEET

Robi Oil--Natural

Issue Date: 23-Jan-2017

Version 1

## 1. IDENTIFICATION

### **Product Identifier:**

**Product Form:** Substance  
**Substance Name:** Robi Oil  
**Product Code:** ODO/30100  
**Classification:** Substance  
**Synonyms:** outdoor oil

### **Intended Use of the Product**

**Use of the substance/mixture:** For residential and industrial use

### **Name, Address and Telephone of the Responsible Party**

#### **Supplier Address:**

Robinia, LLC  
1005 Rundell Stree  
Winston-Salem, NC 27105

### **Emergency Telephone Number**

Chemtel 24 hours (within US only) 800-255-3924  
Chemtel 24 hours (outside continental US) 813-248-0585

## 2. HAZARDS IDENTIFICATION

### **Classification of the substance or mixture**

In accordance with CLP Regulation (EC) No. 1272/2008

### **GHS Category Codes and Hazard Classes**

2.6 - Flam. Liq. 3: H226 – Flammable liquid and vapor  
3.10 – Asp. Haz. 1: H304 – May be fatal if swallowed and enters airways  
3.2 – Skin Irrit. 2: H315 – Causes skin irritation  
3.4 S – Skin Sens. 1: H317 – May cause an allergic skin reaction  
4.1 C – Aqu. Chron. 1: H410 – Very toxic to aquatic life with long lasting effects

### **Label elements**

*In accordance with CLP Regulation (EC) No. 1272/2008*





**Signal Word:** *Danger*

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| GHS Pictograms  | Hazard Statements   | Precautionary Statements   |
|---|---|--|
| <br>GHS02  | <u>H226</u><br>Flammable<br>Liquid and Vapor  | P210-Keep away from heat, sparks, open flames, and hot surfaces. No smoking.   |
| <br>GHS08  | <u>H304</u><br>May Be Fatal if<br>Swallowed and<br>Enters Airways                           | P273-Avoid release into the environment.<br>P280-Wear protective gloves and eye protection.  |
| <br>GHS07  | <u>H315</u><br>Causes<br>Skin Irritation<br><u>H317</u><br>May Cause an<br>Allergic<br>Skin | P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER, doctor or physical.<br>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.<br><br>P331 – Do NOT induce vomiting<br><br>P332 + P313 – If skin irritation occurs: Seek medical advice. |
| <br>GHS09 | <u>H410</u><br>Very Toxic<br>to Aquatic Life<br>with Long<br>Lasting Effects                | P501 – Dispose of contents and their containers in accordance with regional, national and international regulations.<br><br>92.7% degradability in 21 days   |

**Additional Hazards:** Contact with eyes may cause redness or irritation.

### 3. COMPOSTION/INFORMATION ON INGREDIENTS

**Substance:**

China Wood Oil/Citrus Solvent

| Component | CAS No     | Weight-% | EINECS #  |
|-----------|------------|----------|-----------|
| Terpene   | 68956-56-9 | <50      | 232-433-8 |
| Tung Oil  | 8001-20-5  | <50      |           |
| Zinc      |            | <3%      |           |

ECHA Registration #: 01-2119493353-35-0008

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## 4. FIRST AID MEASURES

### First Aid Measures

|                       |  |
|-----------------------|--|
| <b>General Advice</b> | As with any chemical, employees should thoroughly wash hands with soap and water after handling this material. If health disorder happens, call for medical help immediately. Immediately remove any clothing soiled by product. |
| <b>Eye Contact</b>    | Remove any contact lenses at once. Flush eyes with water for at least 15 minutes. If irritation persists, seek medical attention.  |
| <b>Skin Contact</b>   | Wash affected area with copious amounts of soap and water. If irritation develops, seek medical attention.   |
| <b>Inhalation</b>     | If symptoms of overexposure are experienced, move to fresh air.  |
| <b>Ingestion</b>      | Seek medical attention immediately. DO NOT induce vomiting. Rinse mouth with water. DO NOT administer anything by mouth to an unconscious person. DO NOT leave victim unattended.  |

### Most important symptoms and effects, both acute and delayed

|                 |   |
|-----------------|---|
| <b>Symptoms</b> | Skin irritation and skin sensitization. The product may be fatal if swallowed and enters airways. Inhalation may cause irritation of the nose, throat, and respiratory tract. |
|-----------------|---|

### Indication of any immediate medical attention and special treatment needed

|                           |  |
|---------------------------|--|
| <b>Notes to physician</b> | In case of ingestion do not induce vomiting. DO NOT administer anything by mouth to an unconscious person. DO NOT leave victim unattended. |
|---------------------------|--|

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Carbon dioxide, foam or dry chemical. Caution: Carbon dioxide will displace air in confined spaces and may create oxygen deficient atmosphere.

**Unsuitable Extinguishing Media** Water.

**Specific Hazards Arising from the Chemical** Do not use water with full jet to prevent fire spreading. In case of fire, the following can be released: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), smoke, soot.

### **Protective equipment and precautions for firefighters**

- Vapors may be irritating to eyes, skin and respiratory tract. Firefighters should wear self-contained breathing apparatus (SCBA) and full firefighting turnout gear.
- Special hazards: Product contains combustible organic ingredients. Fire may produce dense black smoke containing hazardous products of combustion.
- Additional information: Cool endangered receptacles with water spray. Collect contaminated firefighting water separately. It must not enter the sewage system. Dispose of fire debris and contaminated firefighting water in accordance with official regulations.

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## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

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Use personal protective recommended in Section 8. Product is slippery when spilled. Isolate the hazard area. Deny entry to unnecessary and unprotected personnel.

## **Environmental Precautions**

Prevent further leakage or spillage. Keep away from drains, surface and ground-water and soil. Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers, surface or ground water.

Citrus Solvent

29-Sept-2016

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## **Methods and material for containment and cleaning up**

Dike spill area and cap leaking containers as necessary to prevent further spreading of spilled material. Absorb spilled liquid with suitable material such as dirt or sand. Eliminate all ignition sources. Use equipment rated for use around combustible materials. Place in appropriate disposal container. Oil soaked rags may spontaneously combust; place in appropriate disposal container.

**References to other sections:** None

## 7. HANDLING AND STORAGE

### **Precautions for safe handling**

Use personal protection equipment as mentioned under "exposure controls/personal protection. Keep away from heat, sparks and flames. Protect against electrostatic charges. Open container slowly to release pressure caused by temperature variations. Do not allow this material to come in contact with eyes. Avoid prolonged contact with skin. Use in well-ventilated areas. Do not breathe vapors. Drum lining may occasionally chip and fall to the bottom of container; product should be filtered or strained before blending or repackaging. As with any chemical, employees should thoroughly wash hands with soap and water after handling this material.

### **Conditions for safe storage, including any incompatibilities**

Product may be packaged in phenolic lined steel containers or fluorinated plastic containers. Store in a well ventilated area with proper sprinkler/fire deterrent system. Storage temperature should not exceed the flash point for extended periods of time. Store away from oxidizing agents. Keep container closed when not in use. Air should be excluded from partially filled containers by displacing with nitrogen or carbon dioxide. Do not cut, drill, grind or weld on or near this container; residual vapors may ignite.

### **Specific end use(s)**

No further relevant information available.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Control Parameters**

**Exposure Guidelines** Ingredients with limit values that require monitoring at the workplace: CAS 5989-27-5, ®-p-mentha-1, 8-diene AGW (Germany): 110 mg/m<sup>3</sup>, 20 ppm, 2 (II); DFG, Sh, Y

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The following information is given as general guidance

AIHA Standard: 8h TWA=30ppm

**Engineering Controls:** Normal room ventilation is usually adequate. Provide exhaust ventilation or other engineering controls to keep the airborne concentration below any regulated limits. Keep away from sparks and flames.

**Exposure Controls:**

General protective and hygienic measures: Use personal protective equipment depending on concentration and amount of hazardous substance. Keep away from foodstuffs, beverages, and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of the work. Avoid contact with eyes and skin.

**Eye/Face Protection:** Tightly sealed goggles according to EN 166:2001

**Skin Protection:** Preventative skin protection by use of skin-protection agents is recommended. Use protective gloves. Material of gloves: the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has to be checked prior to the application. Penetration time of glove material: >480 minutes at layer thickness of 0.425 mm (Sol-Vex (37-695) from Ansell).

**For the permanent contact gloves made of the following materials are suitable:** Nitrile rubber, NBR (e.g. following product: Sol-Vex (37-695) from Ansell). As protection from splashes gloves made of the following materials are suitable: PVC Gloves.

**Respiratory Protection:** Suitable respiratory protection: Filter class A2 (brown colour). Use the rules for application of respiratory protection systems.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

| <i>Physical State</i>   | <i>Liquid</i>                              | <i>Odor</i>    | <i>Strong</i>  |
|-------------------------|--|----------------|----------------|
| Appearance              | Yellowish                                  | Odor Threshold | Not Determined |
| Color                   | Yellow                                     |                |                |
| Odor                    | Strong Orange/Pine Aroma                   |                |                |
| Physical State          | Liquid at 20°C (68°F)                      |                |                |
| Ph                      | N/A  |                |                |
| Boiling Point           | 176°C (348.8°F)                            |                |                |
| Melting Point           | -96°C (-141°F)                             |                |                |
| Specific Gravity        | 0.838 – 0.843 at 25°C (77°F)/0.9360-0.9395 |                |                |
| Refractive Index        | 1.471 – 1.474 at 20°C (68°F)               |                |                |
| Optical Rotation        | +96.00° to + 104.00° at 25°C (77°F)        |                |                |
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|                                 |                              |
|---------------------------------|------------------------------|
| Vapor Pressure:                 | < 2mmHg at 20°C (68°F)       |
| Volatile Organic (VOC) Content: | = 48% by volume              |
| Viscosity:                      | 0.923 cP AT 25°C (77°F)      |
| Flash Point (Closed Cup):       | >48°C (>118°F)/289°C (552°F) |
| Flammable Limits:               | 0.7% LEL; 6.1% UEL           |
| Auto ignition Temperature:      | 237°C (459°F)                |

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Solubility in Water:      Evaporation: Immiscible  
Rate:                              0.2 (buAc=1)  
Partition coefficient (n-octanol/water): Kow=4.23 (for d-limonene)  
Density 0.937 g/cm<sup>3</sup> at 25°C (77°F)

Other information: None listed.

*Note: These properties represent a typical sample of the product, but actual values may vary*

## 10. STABILITY AND REACTIVITY

### **Reactivity**

Minimal hazard

### **Chemical Stability**

Stable under recommended storage conditions

### **Possibility of Hazardous Reactions**

NHT, an antioxidant, can be added to prevent oxidation. Avoid long-term exposure to air. If storing partially-filled containers, fill headspace with an inert gas such as nitrogen or carbon dioxide.

### **Conditions to Avoid**

Keep away from heat, sparks and flames. Keep away from children.

### **Incompatible Materials**

Strong oxidizing agents and strong acids, including acidic clays, peroxides, halogens, vinyl chloride, and iodine pentafluoride.

### **Hazardous Decomposition Products**

Oxides of d-limonene, which can result from improper storage and handling, are known to cause skin sensitization. No decomposition if stored properly.

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## 11. TOXICOLOGICAL INFORMATION

### **Information on likely routes of exposure**

#### ***Acute effects***

Citrus pine terpene has been shown to have low oral toxicity (LD<sub>50</sub>> 5g/kg) when tested on rabbits. The product may be fatal if swallowed and enters airways. An LC50 is not established. Inhalation may cause irritation of the nose, throat, and respiratory tract. The product is a skin irritant. The product may cause sensitization by skin contact.

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## ***Chronic effects***

This product is not classified for repeated dose toxicity. This product is not classified as a carcinogen by IARC or U.S. ACGIH, NTP or OSHA. This product has not been shown to produce genetic changes when tested on bacterial or animal cells. This product does not contain known reproductive or developmental toxins.

## ***Likely Routes of Exposure***

Inhalation, skin and eye contact.

## ***Symptoms***

Skin irritation and skin sensitization. The product may be fatal if swallowed and enters airways.

Inhalation may cause irritation of the nose, throat, and respiratory tract.

Target organs: Eyes, respiratory system and skin.

## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

According to the official classification this product may be very toxic to aquatic life. However, due to the physical properties of the product (density and volatility) it will not remain in the environment for an extended period of time.

95.7% degradability in 21 days

LC50 (fish and daphnia)=0.1 to 1 mg/L (per REACH dossier)

### **Persistence/Degradability**

Citrus pine terpene is classified as readily biodegradable.

### **Bioaccumulation potential**

The geometric mean of three predicted BCF for d-limonene is 683, i.e. BCF <2000L/kg. Consistently the Log Kow is below 4.5. d-Limonene is not bio accumulative.

### **Mobility in soil**

Citrus pine terpene extractives volatilize rapidly. Citrus extractives are expected to volatilize from soil or water to the air and oxidize to carbon dioxide in the presence of sunlight.

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### **Results of PBT and vPvB assessment**

Citrus pine terepene is readily biodegradable, and with a predicted BCF of 683 L/kg. All aquatic EC50/LC50 are higher than 0.1 mg/L, therefore d-limonene should not be considered environmentally toxic (the official classification includes H410 for long lasting effects on the aquatic toxicity and hence, at least for the time being the substance shall be classified as such). D-Limonene is not PBT.

### **Other Adverse Effects**

None listed.

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## DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

Recycling is a strongly preferred to disposal or burning. If disposing, please do so in accordance with official regulations in your area. Keep in mind that this product should not be disposed along with household garbage. Do not allow this product to reach any sewage waste system, as it may be detrimental to aquatic life. *European waste catalogue: e.g. 02 03 03 wastes from solvent extraction.*

Recommendation: Empty contaminated packaging thoroughly. Packaging may be recycled or repurposed after thorough and proper cleaning. Note that this packaging may not be cleansed and disposed of in the same manner as the product.

Moistened solids (e.g. cloth, pulp, filter panels, binger) can be burnt after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

*European waste catalogue: e.gh.15 02 02 Filter and absorption materials with hazardous agents.*

## 13. TRANSPORT INFORMATION

### UN Number

US DOT/ADR/RID: UN2319 (primary), UN1169 (alternate)< UN1993 (alternate)

IMDG: UN2319 (primary), UN1169 (alternate), UN1993 (alternate)

IATA/ICSO: UN2319 (primary), UN1169 (alternate), UN1993 (alternate)

### UN proper shipping name

US DOT, ADR/RID, IMDG, IATA/ICAO:

UN2319 – Terpene Hydrocarbons, N.O.S.

UN1169 – Extracts, Aromatic, Liquid

UN1993 – Flammable Liquid, N.O.S. (d-Limonene)

### Transport hazard class: 3



**Label:** 3 Flammable Liquid, Symbol fish and tree

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**Label/Placard:** exception 173.150 (f) applies (US DOT only)

**Packing Group:** III

**Environmental Hazards:** Marine pollutant

**Special precautions for user:** none listed

**EMS Number:** F-E, S-E

## 14. REGULATORY INFORMATION

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

The Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

### Chemical safety assessment:

A Chemical Safety Assessment has been carried out (attached as Annex).



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**General information:** If a health disorder occurs, revive medical attention immediately. Immediately remove any clothing soiled by the product.

**After inhalation:** Supply fresh air and to be sure call for a doctor. In case of unconsciousness, please patient stably in side position for transportation.

**After skin contact:** immediately wash with water and soap and rinse thoroughly.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** Do not induce vomiting; call for medical help immediately.

## **Applicable CAS numbers:**

|            |   |
|------------|---|
| 8028-48-6  | Orange, sweet, extract                  |
| 5989-27-5  | d-Limonene, (R)-p-mentha-1,8-diene      |
| 94266-47-4 | Citrus terpenes, citrus ext             |
| 68647-72-3 | Terpenes and terpenes, sweet orange oil |
| 68608-34-4 | Terpenes and terpenes, citrus oil       |
| 68956-56-9 | Pine terpene                            |

## **Proposition 65**

Proposition 65 chemicals are not expected to be found in this product at levels above those naturally present at their agricultural source. Proposition 65 exempts listed naturally occurring chemicals from an obligation to provide a warning or label.

## 15. OTHER INFORMATION

This product was produced with Good Manufacturing Practices. It is a by-product of citrus, entirely of natural origin, and to the best of our knowledge contains no artificial flavors, sulfites, nitrites, or pesticide residue exceeding tolerances established by the U.S. FDA. It has not been adulterated or misbranded. It does NOT contain lead, cadmium, mercury, or hexavalent chromium or come in contact with these chemicals since it is a citrus derived essential oil produced by steam/vacuum distillation.

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Further, it is packaged in food grade containers with inert liners that do NOT contain lead, cadmium, mercury, or hexavalent chromium. It does NOT contain and is NOT manufactured with any of the Class I or II ozone-depleting substances listed under the United States Clean Air Act of 1990.

## **Legend**

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS – European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS – Japan Existing and New Chemical Substances

IECSC – China Inventory of Existing Chemical Substances

KECL – Korean Existing and Evaluated Chemical Substances

PICCS – Philippines Inventory of Chemicals and Chemical Substances

ACGIH – American Conference of Governmental Industrial Hygienists

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ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road

AIHA – American Industrial Hygiene Association

BHT – Butylated Hydroxytoluene

CAS # - Chemical Abstracts Service

CFR – United States Code of Federal Regulations

DOT – United States Department of Transportation

EC# - European Commission (aka EINECS, European Inventory of Existing Commercial Chemical Substances.)

ECHA - European Chemicals Agency

FDA – United States Food and Drug Administration

GHS – Globally Harmonized System of Classification and Labeling of Chemicals

GRAS – Generally Recognized as Safe

IARC – International Agency for Research on Cancer

ICAO – International Civil Aviation Organization

IMDG – International Maritime Code for Dangerous Goods

NFPA – National Fire Protection Association

NIOSH – United States National Institute for Occupational Safety and Health

NTP – United States National Toxicology Program

OSHA – United States Occupational Health and Safety Administration

RID – Regulations Concerning the International Transport of Dangerous Goods by Rail

TWA – Time Weighted Average

**Caution:** The user should conduct his/her own experiments and establish proper procedures and control before attempting use on critical parts.

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End of Safety Data Sheet