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Revision date: 04/06/2024

Product Name: TERPINOLENE 40%

Section 1: Identification of the Substance/Mixture and of the Company

Product identifier

| | |
|----------------|-----------------|
| Product Name | TERPINOLENE 40% |
| Product Number | 780-1024 |

Relevant identified use of the substance/mixture and uses advised against

| | |
|--------------------------|------------------------------|
| Use of Substance/Mixture | Flavor and fragrance agents. |
|--------------------------|------------------------------|

Details of supplier of the SDS

| | |
|-----------|---|
| Company | O'Laughlin Corporation Limited |
| Address | Suite 1704 Chinachem Tower 34 – 37 Connaught Road, Central, Hong Kong |
| Telephone | (852) 2527 1031 |
| Fax | (852) 2529 0231 |
| Website | www.olaughlinco.com |

Emergency telephone number

(852) 2527 1031

Section 2: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids, Category 4, H226

Aspiration hazard, Category 1, H304

Skin corrosion/irritation, Category 2, H315

Sensitisation – skin, Category 1/1A/1B, H317

Hazardous to the aquatic environment, long-term hazard, Category 2, H411

Labelling elements

Labelling according to Regulation (EC) No 1272/2008



Pictogram

Signal word

Danger

Hazard Statement

H226 - Flammable liquids and vapor.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

P210 - Keep away from heat/ sparks/ open flames/ hot surfaces. – No smoking.

P233 - Keep container tightly closed.

P240 - Ground/ bond container and receiving equipment.

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P241 - Use explosion-proof electrical/ ventilating/ lighting/.../ equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P260 - Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P261 - Avoid breathing dust/ fume/ gas/ mist/vapors/ spray.

P264 - Wash thoroughly after handling.

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/ face protection.

Response

P301 + P316 - IF SWALLOWED: Get emergency medical help immediately.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.

P321 - Specific treatment (see ... on this label).

P331 - Do NOT induce vomiting.

P332 + P317 - If skin irritation occurs: Get medical help.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P363 - Wash contaminated clothing before reuse.

P370+P378 - In case of fire: Use extinguishing media listed in Section 5 of the SDS for extinction.

P391 - Collect spillage.

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool.

P405 - Store locked up.

Disposal

P501 - Dispose of contents/ container in accordance with local/ regional/ national/ international regulations.

Hazards Not Otherwise Classified No information available

Supplemental Hazard Information No information available

Section 3: Composition/information on ingredients

| Substance Name | TERPINOLENE 40% |
|----------------|--|
| CAS Number | 586-62-9 |
| EC Number | 209-578-0 |
| % (w/w) | Terpinolene: 40.0% - 45.0% Dipentene: 10.0% - 15.0 % Phellandrene: 10.0 % - 15.0 % |

Remarks: The rest unspecified ingredients are impurities, and they are not hazard.

Section 4: First Aid Measures

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Description of first aid measures

- Skin contact** Wash off with soap and plenty of water. Consult a physician.
- Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Ingestion** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
- Inhalation** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

General information

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

Indication of any immediate medical and special treatment needed: No information available.

Section 5: Fire-fighting Measures

Flammable properties

Flash point 61°C

Firefighting

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
 Unsuitable extinguish media Do not use a solid water stream as it may scatter and spread fire.

Protective equipment and precautions for firefighters

Specific hazards during firefighting Carbon oxides.
 Specific protective equipment for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighter's protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode when fighting fires.
 Specific methods Use water spray to cool unopened containers
 General fire hazards Static charges generated by emptying package in or near flammable vapor may cause flash fire.

Section 6: Accidental Release Measures

Personal precautions Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.
Environmental precautions Do not let product enter drains.
Methods for cleaning up Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

Storage Keep away from open flames, hot surfaces and sources of ignition. Store in cool place. 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.
Handling Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary



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measures against static discharges. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection. Wash thoroughly after handling.

Specific end use(s) No information available.

Section 8: Exposure Controls/Personal Protection

Control parameters: Components with workplace control parameters.

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 Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand protection Type of gloves recommended: Butyl rubber. Minimum breakthrough time/ gloves: 480 min. Minimum thickness/ gloves 0.11 mm.

Body protection Impervious 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 full-face 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).

Thermal hazards Wear suitable protective clothing to prevent heat.

Environmental exposure controls Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Industrial hygiene: When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/ or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: Physical and Chemical Properties

Appearance Pale Yellow Transparent liquid.

Odor Sweet, fresh, piney citrus with a woody old lemon peel nuance.

Flash point 61 °C

Boiling Point 183 - 185 °C at 760 mm Hg

Relative Density 0.850 - 0.874 at 20 °C

Refractive Index 1.4678 - 1.4920 at 20 °C

Vapor Pressure 1.126000 mm/Hg at 25 °C

Acid Value No information available.

Solubility (ies) No information available.

Auto ignition temperature No information available.

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Viscosity No information available.

Section 10: Stability and Reactivity

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|---|---|
| Reactivity | Stable under normal temperatures and pressures. |
| Chemical stability | Stable at room temperature in closed containers under normal storage and handling conditions. |
| Possibility of hazardous reactions | No hazardous reactions known. |
| Conditions to avoid | No information available. |
| Incompatible materials | Strong oxidizing agents, strong bases, mineral acids. |
| Hazardous decomposition products | No information available. |

Section 11: Toxicological Information

Information on likely routes of exposure:

| | |
|---------------------|--|
| Inhalation | May cause irritation to the respiratory system. |
| Skin contact | May be harmful in contact with skin. Causes skin irritation. |
| Eye contact | Causes serious eye irritation. Causes mild eye irritation. |
| Ingestion | May be harmful if swallowed. |

Information on toxicological effects:

| | |
|---------------------------------|-------------------------------|
| Oral/Parenteral Toxicity | Acute, LD50 Rat, 4.39 ml/kg |
| Dermal Toxicity | Acute, LD50 Rat, > 5000 mg/kg |
| Germ cell mutagenicity | No information available. |

Carcinogenicity

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity No information available.

TOST - single exposure No information available.

TOST - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: Ecological Information

Eco toxicity Very toxic to aquatic life with long lasting effects.

LC50 (Crustacea, Daphnia magna) 2.55 mg/l, 48h

LC50 (Pimephales promelas) 0.72 mg/l, 96h

Persistence and degradability A degradation of 67-79% was observed in a 28-day test (OECD 301C - oxygen consumption measure).

Biodegradability: Biotic /Aerobic Biodegradability: 51% - Partially biodegradable.



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|---|--|
| Bio accumulative potential | Partition coefficient n-octanol / water (log Kow): 4.23. |
| Mobility in soil | No information available. |
| Results of PBT&vPvB assessment | No information available. |
| Other adverse effects | No information available. |

Section 13: Disposal Considerations

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|--|---|
| Disposal instructions | Do not discharge into drains, water course or onto the ground. Do not allow this material to drain into sewers/ water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/ container in accordance with local/ regional/ national/ international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous water code | No information available. |
| Waste from residues/unused products | Empty containers or liner may retain some product residues. This material and its container must be disposed of in a safe manner. |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

Section 14: Transport Information

| | ADN | ADR | RID | DOT BULK | DOT NON-BULK | IATA | IMDG |
|------------------------------|-------------|-----|-----|----------|--------------|------|------|
| UN Number | 2541 | | | | | | |
| Shipping Name | TERPINOLENE | | | | | | |
| Hazard Class | 3 | | | | | | |
| Packing group | III | | | | | | |
| Environmental Hazards | Yes | | | | | | |

Section 15: Regulatory Information

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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|---|---------------|
| CERCLA Hazards Substance List (40 CFR 302.4) | Not listed |
| OSHA Specifically Regulated Substance (29 CFR 1910.1001-1050) | Not listed |
| SARA 302 Extremely hazardous substances | Not listed |
| SARA 311/312 Hazard Chemical | Not listed |
| SARA 313 (TRI reporting) | Not regulated |

Other federal regulations

| | |
|---|---------------|
| CAA Section 112 Hazardous Air Pollutant List | Not regulated |
| CAA Section 112 (r) Accidental Release Prevention (40 CFR 68.130) | Not regulated |
| Safe Drinking Water Act (SDWA) | Not regulated |



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US State regulations

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|---|---------------|
| US. Massachusetts RTK-Substance List | Not listed |
| US. New Jersey Worker and Community Right-to-Know Act | Not regulated |
| US. Pennsylvania Worker and Community Right-to-Know Law | Not listed |
| US. Rhode Island RTK | Not regulated |
| US. California Proposition 65 | Not listed |

International Inventories

| Country or region | Inventory name | On inventory (yes/no) |
|--------------------|-----------------------|-----------------------|
| Australia | AICS | Yes |
| Canada | DSL | Yes |
| Canada | NDSL | No |
| China | IECSC | Yes |
| Europe | EINECS | Yes |
| Europe | ELINCS | No |
| Japan | ENCS | Yes |
| Korea | ECL | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | PICCS | Yes |
| US and Puerto Rico | TSCA | Yes |

Section 16: Other Information

Revision Information

Date of this version: June 4, 2024

Declaration to Reader

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. O'Laughlin Corporation Limited, shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.