



## Certificate of Analysis Batch #12299

**Production Date:** June 1<sup>st</sup> 2023

**Retest Date:** June 1<sup>st</sup> 2026

**Product:** Douglas-fir Essential Oil

**Botanical Name:** Pseudotsuga menziesii

**CAS Number:** 8050-89-3

|                           |                                |                                |            |
|---------------------------|--------------------------------|--------------------------------|------------|
| <b>CUSTOMER NAME</b>      |                                | Port Blakely NZ Essential Oils |            |
| <b>CERTIFICATION DATE</b> |                                | 20 July 2023                   |            |
| <b>CUSTOMER REFERENCE</b> |                                | 12299                          |            |
| <b>ARL JOB #</b>          | A231559                        | <b>LAB REF. #</b>              | ARL2305302 |
| <b>ANALYSIS</b>           | GCMS - Compositional (LEVEL 1) |                                |            |

| TEST                   | RESULTS | TEST METHOD  |
|------------------------|---------|--------------|
|                        | Area %  |              |
| $\alpha$ -thujene      | 1.1     | ARL-TM101-4* |
| $\alpha$ -pinene       | 17.0    |              |
| camphene               | 0.7     |              |
| sabinene               | 10.2    |              |
| $\beta$ -pinene        | 22.3    |              |
| myrcene                | 2.2     |              |
| $\alpha$ -phellandrene | 0.3     |              |
| $\delta$ -3-carene     | 10.8    |              |
| $\alpha$ -terpinene    | 2.2     |              |
| para cymene            | 0.9     |              |
| limonene               | 2.9     |              |
| $\beta$ -phellandrene  | 1.6     |              |
| trans $\beta$ -ocimene | 0.4     |              |
| $\gamma$ -terpinene    | 3.7     |              |
| terpinolene            | 10.7    |              |
| para cymencene         | 0.2     |              |
| linalool               | 0.2     |              |
| terpinen-4-ol          | 4.1     |              |
| $\alpha$ -terpineol    | 0.5     |              |
| citronellol            | 0.6     |              |
| bornyl acetate         | 0.3     |              |
| citronellyl acetate    | 1.6     |              |
| geranyl acetate        | 0.7     |              |
| longifolene            | 0.1     |              |
| $\alpha$ -humulene     | 0.2     |              |
| germacrene D           | 0.2     |              |
| d-cadinene             | 0.1     |              |

\* Assay by GC (MS detection –area percent report)