

## Certificate of Analysis (COA)

### - Treemoss Extracts

**Issue Date:** 22 February 2026 **Product Name:** Treemoss Extracts (*Pseudevernia furfuracea*) **CAS**

**Number:** 90028-67-4 **Product Number:** TME-20260222 **Batch Number:** TME-SH2026022201 **Brand:**

SIGALD **Formula:** Natural lichen extract mixture (Main components: Usnic acid, Atranorin) **Quality**

**Release Date:** 22 February 2026

Test	Specification (Fragrance/Cosmetic Grade)	Result	Unit	Test Method
Appearance	Olive green to brownish viscous liquid/paste	Olive green viscous liquid	-	Visual Inspection (25°C)
Odor	Characteristic earthy, mossy, woody aroma	Typical treemoss earthy-mossy aroma	-	Sensory Test (IFRA Standard)
Total Lichen Acid Content	≥ 8.0%	9.5%	%	High Performance Liquid Chromatography (HPLC)
Usnic Acid Content	≥ 2.0%	2.8%	%	HPLC
Atranorin Content	≥ 1.5%	1.9%	%	HPLC
Solubility in 95% Ethanol	1:5 soluble, homogeneous	1:5 homogeneous solution	-	Volumetric Method
Water Content	≤ 5.0%	3.2%	%	Karl Fischer Titration
Ash Content	≤ 2.0%	1.1%	%	Gravimetric Method
Heavy Metals (Pb)	≤ 5 ppm	< 0.5 ppm	ppm	Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Arsenic (As)	≤ 1 ppm	< 0.1 ppm	ppm	Atomic Fluorescence Spectrometry (AFS)
Residual Solvents	ND (Not Detected)	ND	ppm	Gas Chromatography- Mass Spectrometry (GC- MS)
Total Bacterial Count	≤ 100 CFU/mL	15 CFU/mL	CFU/mL	Plate Count Method
E. coli	Negative	Negative	-	Microbiological Detection
Yeast & Mold	≤ 50 CFU/mL	8 CFU/mL	CFU/mL	Plate Count Method

### Certification

This batch of Treemoss Extracts has been tested in accordance with ISO 4720 (Essential Oil Standards) and IFRA fragrance ingredient specifications. All test results meet the specified quality requirements and are suitable for use in fragrances, cosmetics, and personal care formulations.