

CERTIFICATE OF ANALYSIS

Private Laboratory

SUBSTANCE IDENTIFICATION

Name: PINE SYLVESTRIS OIL (Pinus sylvestris) organic
Product code: 4
INCI: Pinus Sylvestris Oil
CASNr.: 84012-35-1/94266-48-5
EINECSNr.: 281-679-2/304-455-9
Batch: R02946
Production date: 06/2026
Expiration date: 06/2030
Specification: Ph Eur 10.0

GENERAL CHARACTERISTICS

Type of product: 100% Natural essential oil
Quality: Organic
Botanicalname: Pinus sylvestris L.
Typeofproduction: Water steam distillation
Plantpart: Branches and needles
Countryoforigin: Bulgaria

SENSORICAL CHARACTERISTICS

Parameter	Specification requirements	Result
Appearance	Colorless to pale yellow liquid	Complies
Odor	Characteristic	Complies

PHYSICAL CHARACTERISTICS

Parameter	Specification requirements	Result
Specific density(20°C)	0.855-0.875	0.869
Refractive index(20°C)	1.465-1.480	1.474
Optical rotation(20°C)	-9to-30°	-17°
Acid value	max1.0	0.3mgKOH/g
Peroxide value	max20	1.7meqO2/kg

PURITY

Parameter	Parameter	Result
Fatty acids and resinified essential oils	Not present	Complies
Additives	Not present	Complies

CHEMICAL CHARACTERISTICS (GC-FID)

Parameter	Specification requirements	Result
α Pinene	32.0-60.0%	38.7%
Camphene	0.5-2.0%	1.4%
β Pinene	5.0-22.0%	20.0%
Car-3-ene	6.0-18.0%	16.7%
β Myrcene	1.5-10.0%	2.0%
Limonene	7.0-12.0%	10.7%
β Phellandrene	max 2.5%	0.7%
p-Cymene	max 2.0%	0.4%
Terpinolene	max 4.0%	0.2%
Bornylacetate	1.0-4.0%	1.2%
β Caryophyllene	1.0-6.0%	2.9%

PACKAGING AND STORAGE

Parameter	Requirements
Standard packaging	ALU, HDPE
Storage	In tight closed and full containers, at cool, dry and well ventilated place below 25°C
Reanalysis	When opened for more than 24 months quality should be checked before use.

ASSESSMENT

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