

CERTIFICATE OF ANALYSIS

DATE ISSUED: 12/18/2024



IDENTIFICATION

| | |
|---------------------------------------|--------------------|
| PRODUCT NAME | Alpha Phellandrene |
| PRODUCT DESIGNATION | Isolate |
| TRUE TERPENES PRODUCT # | TTI-APHE |
| FINISHED GOOD LOT # | 24121320 |
| RECOMMENDED USE BY DATE (RETEST DATE) | November 2025 |
| CAS # | 99-83-2 |
| EC # | 202-792-5 |
| MANUFACTURING DATE | 12/13/2024 |
| PRODUCT RELEASE DATE | 12/17/2024 |
| DENSITY* | 0.85 g/mL |

| PARAMETER | SPECIFICATION | RESULT |
|-------------------|---|-----------------|
| APPEARANCE | COLORLESS TO PALE YELLOW LIQUID | PASSES VISUALLY |
| ODOR | HERBACEOUS, FRESH, CITRUSY, PEPPERY, WOODY, WITH A MINT-LIKE BACKGROUND | PASSES SENSORY |
| HEAVY METALS | PASSES TESTING | PASSES TESTING |
| PESTICIDES | PASSES TESTING | PASSES TESTING |
| RESIDUAL SOLVENTS | PASSES TESTING | PASSES TESTING |

ADDITIONAL PRODUCT INFORMATION:

Storage Conditions:

Stable when stored in its original container securely tightened and away from heat, open flames, sunlight, combustible materials and hot surfaces. Store in a cool, dry, and well-ventilated place.

Heavy Metal Results (ppm)

| Analyte | Max Allowed | LOQ | Result | Analyte | Max Allowed | LOQ | Result |
|---------|-------------|--------|--------|---------|-------------|--------|--------|
| Arsenic | 0.11 | 0.0965 | < LOQ | Cadmium | 0.11 | 0.0965 | < LOQ |
| Lead | 0.11 | 0.0965 | < LOQ | Mercury | 0.06 | 0.0483 | < LOQ |

Pesticide Results (ppm)

| Analyte | Max Allowed | LOQ | Result | Analyte | Max Allowed | LOQ | Result |
|---------------------|-------------|------|--------|------------------|-------------|------|--------|
| Abamectin | 0.07 | 0.07 | < LOQ | Acephate | 0.02 | 0.02 | < LOQ |
| Acequinocyl | 0.03 | 0.03 | < LOQ | Acetamiprid | 0.05 | 0.05 | < LOQ |
| Aldicarb | 0.10 | 0.10 | < LOQ | Allethrin | 0.10 | 0.10 | < LOQ |
| Azadirachtin | 0.50 | 0.50 | < LOQ | Azoxystrobin | 0.01 | 0.01 | < LOQ |
| Benzovindiflupyr | 0.01 | 0.01 | < LOQ | Bifenazate | 0.01 | 0.01 | < LOQ |
| Bifenthrin | 0.10 | 0.10 | < LOQ | Boscalid | 0.01 | 0.01 | < LOQ |
| Buprofezin | 0.01 | 0.01 | < LOQ | Captan | 0.70 | 0.70 | < LOQ |
| Carbaryl | 0.03 | 0.03 | < LOQ | Carbofuran | 0.01 | 0.01 | < LOQ |
| Chlorantraniliprole | 0.01 | 0.01 | < LOQ | Chlordane | 0.10 | 0.10 | < LOQ |
| Chlorfenapyr | 0.10 | 0.10 | < LOQ | Chlorpyrifos | 0.01 | 0.01 | < LOQ |
| Clofentezine | 0.01 | 0.01 | < LOQ | Clothianidin | 0.03 | 0.03 | < LOQ |
| Coumaphos | 0.01 | 0.01 | < LOQ | Cyantraniliprole | 0.01 | 0.01 | < LOQ |
| Cyfluthrin | 0.40 | 0.40 | < LOQ | Cypermethrin | 0.30 | 0.30 | < LOQ |
| Cyprodinil | 0.01 | 0.01 | < LOQ | Daminozide | 0.05 | 0.05 | < LOQ |
| Deltamethrin | 0.50 | 0.50 | < LOQ | Diazinon | 0.01 | 0.01 | < LOQ |
| Dichlorvos | 0.05 | 0.05 | < LOQ | Dimethoate | 0.01 | 0.01 | < LOQ |

*Density is calculated based on product formulation.

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8210 NE Mauzey Ct, Hillsboro, OR 97124

(888) 954-8550

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| Pesticide Results (ppm) | | | | | | | |
|-------------------------|-------------|------|--------|--------------------------------------|-------------|------|--------|
| Analyte | Max Allowed | LOQ | Result | Analyte | Max Allowed | LOQ | Result |
| Dimethomorph | 0.05 | 0.05 | < LOQ | Dinotefuran | 0.05 | 0.05 | < LOQ |
| Dodemorph | 0.05 | 0.05 | < LOQ | Endosulfan Sulfate | 0.05 | 0.05 | < LOQ |
| α-Endosulfan | 0.10 | 0.05 | < LOQ | β-Endosulfan | 0.05 | 0.05 | < LOQ |
| Ethoprophos | 0.01 | 0.01 | < LOQ | Etofenprox | 0.01 | 0.01 | < LOQ |
| Etoxazole | 0.01 | 0.01 | < LOQ | Etridiazole | 0.05 | 0.05 | < LOQ |
| Fenhexamid | 0.10 | 0.10 | < LOQ | Fenoxycarb | 0.01 | 0.01 | < LOQ |
| Fenpyroximate | 0.02 | 0.02 | < LOQ | Fensulfothion | 0.01 | 0.01 | < LOQ |
| Fenthion | 0.01 | 0.01 | < LOQ | Fenvalerate | 0.20 | 0.20 | < LOQ |
| Fipronil | 0.01 | 0.01 | < LOQ | Flonicamid | 0.03 | 0.03 | < LOQ |
| Fludioxonil | 0.01 | 0.01 | < LOQ | Fluopyram | 0.01 | 0.01 | < LOQ |
| Hexythiazox | 0.01 | 0.01 | < LOQ | Imazalil | 0.01 | 0.01 | < LOQ |
| Imidacloprid | 0.01 | 0.01 | < LOQ | Iprodione | 0.50 | 0.50 | < LOQ |
| Kinoprene | 0.05 | 0.05 | < LOQ | Kresoxim-methyl | 0.01 | 0.01 | < LOQ |
| Malathion | 0.01 | 0.01 | < LOQ | Metalaxyl | 0.01 | 0.01 | < LOQ |
| Methiocarb | 0.01 | 0.01 | < LOQ | Methomyl | 0.03 | 0.03 | < LOQ |
| Methoprene | 1.00 | 1.0 | < LOQ | Mevinphos | 0.03 | 0.03 | < LOQ |
| MGK-264 | 0.05 | 0.05 | < LOQ | Myclobutanil | 0.01 | 0.01 | < LOQ |
| Naled | 0.10 | 0.10 | < LOQ | Novaluron | 0.03 | 0.03 | < LOQ |
| Oxamyl | 0.50 | 0.50 | < LOQ | Paclobutrazol | 0.02 | 0.01 | < LOQ |
| Parathion-Methyl | 0.03 | 0.03 | < LOQ | Pentachloronitrobenzene (Quintozene) | 0.02 | 0.02 | < LOQ |
| Permethrin | 0.04 | 0.04 | < LOQ | Phenothrin | 0.03 | 0.03 | < LOQ |
| Phosmet | 0.01 | 0.01 | < LOQ | Piperonyl butoxide | 0.20 | 0.20 | < LOQ |
| Pirimicarb | 0.01 | 0.01 | < LOQ | Prallethrin | 0.05 | 0.05 | < LOQ |
| Propiconazole | 0.01 | 0.01 | < LOQ | Propoxur | 0.01 | 0.01 | < LOQ |
| Pyraclostrobin | 0.01 | 0.01 | < LOQ | Pyrethrins | 0.03 | 0.03 | < LOQ |
| Pyridaben | 0.02 | 0.02 | < LOQ | Resmethrin | 0.02 | 0.02 | < LOQ |
| Spinetoram | 0.01 | 0.01 | < LOQ | Spinosad | 0.01 | 0.01 | < LOQ |
| Spirodiclofen | 0.25 | 0.25 | < LOQ | Spiromesifen | 0.03 | 0.03 | < LOQ |
| Spirotetramat | 0.01 | 0.01 | < LOQ | Spiroxamine | 0.01 | 0.01 | < LOQ |
| Tebuconazole | 0.01 | 0.01 | < LOQ | Tebufenozide | 0.01 | 0.01 | < LOQ |
| Teflubenzuron | 0.03 | 0.03 | < LOQ | Tetrachlorvinphos | 0.01 | 0.01 | < LOQ |
| Tetramethrin | 0.05 | 0.05 | < LOQ | Thiacloprid | 0.01 | 0.01 | < LOQ |
| Thiamethoxam | 0.01 | 0.01 | < LOQ | Thiophanate-Methyl | 0.03 | 0.03 | < LOQ |
| Trifloxystrobin | 0.01 | 0.01 | < LOQ | | | | |

| Residual Solvent Results (ppm) | | | | | | | |
|--------------------------------|-------------|-----|--------|----------------------------------|-------------|------|--------|
| Analyte | Max Allowed | LOQ | Result | Analyte | Max Allowed | LOQ | Result |
| 1-Butanol | 5000 | 500 | < LOQ | 1-Pentanol | 5000 | 500 | < LOQ |
| 1,2-Dichloroethane | 1.0 | 1.0 | < LOQ | 1,2-Dimethoxyethane | 100 | 50.0 | < LOQ |
| 1,4-Dioxane | 380 | 100 | < LOQ | 2-Butanol | 5000 | 200 | < LOQ |
| 2-Butanone (Methylethylketone) | 500 | 500 | < LOQ | 2-Ethoxyethanol | 160 | 30 | < LOQ |
| 2-Methyl-1-Propanol | 5000 | 500 | < LOQ | 2-Methylbutane (Isopentane) | 750 | 200 | < LOQ |
| 2-Methylpentane | 30 | 30 | < LOQ | 2-Propanol (IPA) | 500 | 200 | < LOQ |
| 2,2-Dimethylbutane | 30 | 30 | < LOQ | 2,2-Dimethylpropane (Neopentane) | 750 | 200 | < LOQ |

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Residual Solvent Results (ppm)

| Analyte | Max Allowed | LOQ | Result | Analyte | Max Allowed | LOQ | Result |
|---------------------------|-------------|-----|--------|--------------------------------------|-------------|------|--------|
| 2,3-Dimethylbutane | 30 | 30 | < LOQ | 3-Methyl-1-Butanol (Isoamyl Alcohol) | 500 | 500 | < LOQ |
| 3-Methylpentane | 30 | 30 | < LOQ | Acetic acid | 5000 | 250 | < LOQ |
| Acetone | 500 | 200 | < LOQ | Acetonitrile | 100 | 100 | < LOQ |
| Anisole | 5000 | 500 | < LOQ | Benzene | 1.0 | 1.0 | < LOQ |
| Butanes | 500 | 400 | < LOQ | Butyl acetate | 500 | 500 | < LOQ |
| Chloroform | 1.0 | 1.0 | < LOQ | Cyclohexane | 3880 | 200 | < LOQ |
| Dimethyl sulfoxide (DMSO) | 5000 | 500 | < LOQ | Ethanol | 500 | 200 | < LOQ |
| Ethyl acetate | 400 | 200 | < LOQ | Ethyl benzene | 200 | 200 | < LOQ |
| Ethyl ether | 500 | 200 | < LOQ | Ethyl formate | 5000 | 500 | < LOQ |
| Ethylene glycol | 620 | 200 | < LOQ | Ethylene oxide | 1.0 | 1.0 | < LOQ |
| Formic acid | 5000 | 250 | < LOQ | Hexanes | 150 | 150 | < LOQ |
| Isobutyl acetate | 5000 | 500 | < LOQ | Isopropyl acetate | 310 | 200 | < LOQ |
| Isopropylbenzene (Cumene) | 70 | 30 | < LOQ | Methanol | 250 | 200 | < LOQ |
| Methyl acetate | 500 | 500 | < LOQ | Methyl-t-butyl ether | 5000 | 500 | < LOQ |
| Methylene chloride | 1.0 | 1.0 | < LOQ | Methylisobutylketone | 4500 | 500 | < LOQ |
| Methylpropane (Isobutane) | 500 | 200 | < LOQ | n-Butane | 500 | 200 | < LOQ |
| n-Heptane | 500 | 200 | < LOQ | n-Hexane | 30 | 30 | < LOQ |
| n-Pentane | 500 | 200 | < LOQ | n-Propanol | 500 | 500 | < LOQ |
| N,N-Dimethylacetamide | 1090 | 200 | < LOQ | N,N-Dimethylformamide | 880 | 200 | < LOQ |
| Pentanes | 750 | 600 | < LOQ | Propane | 500 | 200 | < LOQ |
| Propyl acetate | 500 | 500 | < LOQ | Pyridine | 100 | 50 | < LOQ |
| Sulfolane | 160 | 50 | < LOQ | Tetrahydrofuran | 250 | 100 | < LOQ |
| Toluene | 890 | 100 | < LOQ | Total Residual Solvents | 5000 | 5000 | < LOQ |
| Total Xylenes | 400 | 400 | < LOQ | Total Xylenes and Ethyl benzene | 600 | 600 | < LOQ |
| Trichloroethylene | 1.0 | 1.0 | < LOQ | Triethylamine | 5000 | 500 | < LOQ |

Reviewed by Graham Wiklund

Date: 12/18/2024

Disclaimer:

This Certificate of Analysis contains results provided by ISO 17025 certified contract laboratories external to True Terpenes, as well as results determined by validated method in True Terpenes' internal laboratory. This document does not relieve the purchaser from any responsibility for conducting their own tests in order to verify the suitability of this product for their application and to comply with all relevant legal requirements for any goods into which this product is incorporated. True Terpenes certifies that this product is not derived from cannabis nor does it contain any cannabinoids or other cannabis-derived extracts. The "max allowed" limits in this Certificate of Analysis are reflective of True Terpenes' internal specifications and may not be inclusive of all compound regulations in your region for your finished product type.

The Recommended Use By Date is based on a representative study which has shown stability of color, odor, solvents, and terpene profile throughout the defined period under advised storage conditions. Addition of our product as an ingredient at any point until the recommended use by date should provide a consistent experience. This date is guidance based on optimum storage conditions; exposure to oxygen, light, heat, extreme cold, or other unanticipated conditions may result in degradation of the terpenes prior to the end of the stated recommended use by date. Any directions on the product label to refrigerate during storage should be followed. Botanically derived and/or synthetic compounds found in this product may contain trace compounds which can potentially result in a slight variance between lots.

† Max Allowed specification for Toluene is specific to Alpha Phellandrene (TTI-APHE).

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