



Certificate of Analysis

Product Name/Code:	PureForm CBD/AP-5478	Formula:	C ₂₁ H ₃₀ O ₂ FW: 314.46
CAS No.:	13956-29-1	Batch Size:	141 KG
Lot No.:	130240	Retest Date:	March 2020
Mfg. Date:	February 2019	Recommended Storage Conditions:	2° - 8° C, away from light

Test Item	Specification	Result
Appearance	White to Tan or Beige solid	Tan Solid
ID by IR	Matches Reference	Matches Reference
ID by HPLC	Matches Standard	Matches Standard
HPLC Purity	≥ 99.5%	100.0% Area
Related Substances:		
- Regioisomer	≤ 0.3% area	ND
- Dimer	≤ 0.3% area	ND
- AP-4010	≤ 0.3% area	ND
- THC	≤ 0.1% w/w	ND
- Report individual impurities	≥ 0.10% area	ND
Chirality by HPLC	≥ 99.0%	100.0%
Assay	97.0-103.0% wt.	99.9% wt. (as-is)
Residual Terpenes (Max.)	Orange Terpenes NMT 1000 ppm (GRAS**)	70 ppm
Residual Solvents (Max.)*	Ethanol NMT 1000 ppm	ND
Residual Solvents (Max.)	PET Ether NMT 15 ppm	< 1 ppm
Residual Solvents (Max.)	Propylene Glycol NMT 2500 ppm (GRAS)	1132 ppm
Residue on Ignition	Report result	0.01%
Water, wt% by KF	≤ 1 %	< 1% (0.01%)
Metals:		
- Arsenic	≤ 5ppm	< 0.1 ppm
- Cadmium	≤ 5ppm	< 0.1 ppm
- Lead	≤ 5ppm	< 0.1 ppm
- Mercury	≤ 5ppm	< 0.1 ppm
- Zinc	≤ 1300ppm	1 ppm
Total Aerobic Microbial Count	≤ 1000 CFU/g	< 500 CFU/g
Total Yeast and Molds	≤ 100 CFU/g	< 50 CFU/g
<i>E. coli</i>	Absent	Absent

Residual Solvents:

*No Class 1 or Class 2 solvents were utilized during the manufacture, processing, or handling of PureForm CBD.

**Generally Recognized as Safe (GRAS) is an FDA designation that a chemical or substance added to food is considered safe by experts.

Non-Hemp, Non-Cannabis Derived Material:

PureForm CBD is derived from non-cannabis botanical sources. No cannabis-derived material was used in the production of this cannabidiol.

NOTE: Produced under the cGMP guidelines outlined in Section 117 of the Food Safety & Modernization Act (FSMA)

Conclusion: Batch released. We hereby certify that the above information is authentic and accurate.

DocuSigned by:
 Signed by:  Date: 6/20/2019
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 Marc Bencivenga, CSO