




# Certificate of Analysis

Customer Information		Testing Facility	
Client:	Sunstone Organics	Lab:	Cora Science, LLC
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Sample Image(s)	Sample Information
	<div><div>Name:</div><div>159 A1</div><div>Lot Number:</div><div>159 A1</div><div>Description:</div><div>Finely ground plant material</div><div>Condition:</div><div>Good</div><div>Job ID:</div><div>ISO03609</div><div>Sample ID:</div><div>I09338</div><div>Received:</div><div>24MAR2025</div><div>Completed:</div><div>28MAR2025</div><div>Issued:</div><div>31MAR2025</div></div>

## Test Results

Mitragyna Alkaloids (UHPLC-DAD)		Method Code: T102		Tested: 26MAR2025   1645	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Mitragynine	Report Results	1.44	w/w%	0.003	N/A
7-Hydroxymitragynine	Report Results	<LOQ	w/w%	0.003	N/A
Paynantheine	Report Results	0.280	w/w%	0.003	N/A
Speciogynine	Report Results	0.217	w/w%	0.003	N/A
Speciociliatine	Report Results	0.426	w/w%	0.003	N/A
Total Mitragyna Alkaloids	Report Results	2.36	w/w%	0.003	N/A

Elemental Impurities (ICP-MS)		Method Code: T301		Tested: 27MAR2025   1424	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Arsenic	NMT 2.00	0.799	ug/g	0.006	PASS
Cadmium	NMT 0.50	0.020	ug/g	0.002	PASS
Mercury	NMT 0.20	0.024	ug/g	0.002	PASS
Lead	NMT 5.00	0.722	ug/g	0.002	PASS

Residual Solvents: Class I (GC-MS)		Method Code: T201		Tested: 26MAR2025   1244	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
1,1-Dichloroethene	NMT 8	<LOQ	ug/g	0.40	PASS
1,1,1-Trichloroethane	NMT 1500	<LOQ	ug/g	75	PASS
Tetrachloromethane	NMT 4	<LOQ	ug/g	0.20	PASS
Benzene	NMT 2	<LOQ	ug/g	0.10	PASS
1,2-Dichloroethane	NMT 5	<LOQ	ug/g	0.25	PASS

Residual Solvents: Class II (GC-MS)		Method Code: T201		Tested: 26MAR2025   1244	
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PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Methanol	NMT 3000	<LOQ	ug/g	300	PASS
Acetonitrile	NMT 410	<LOQ	ug/g	41	PASS
Dichloromethane	NMT 600	<LOQ	ug/g	15	PASS
1,2-Dichloroethene, (E)	NMT 1870	<LOQ	ug/g	47	PASS
1,2-Dichloroethene, (Z)	NMT 1870	<LOQ	ug/g	47	PASS
Tetrahydrofuran	NMT 720	<LOQ	ug/g	18	PASS
Cyclohexane	NMT 3880	<LOQ	ug/g	97	PASS
Methylcyclohexane	NMT 1180	<LOQ	ug/g	30	PASS
1,4-Dioxane	NMT 380	<LOQ	ug/g	38	PASS
Toluene	NMT 890	<LOQ	ug/g	22	PASS
Chlorobenzene	NMT 360	<LOQ	ug/g	9.0	PASS
Ethylbenzene	NMT 2170	<LOQ	ug/g	54	PASS
o/p-Xylene	NMT 2170	<LOQ	ug/g	54	PASS
m-Xylene	NMT 2170	<LOQ	ug/g	54	PASS
Isopropylbenzene	NMT 70	<LOQ	ug/g	1.8	PASS
Hexane	NMT 290	<LOQ	ug/g	7.3	PASS
Nitromethane	NMT 50	<LOQ	ug/g	1.3	PASS
Chloroform	NMT 60	<LOQ	ug/g	1.5	PASS
1,2-Dimethoxyethane	NMT 100	<LOQ	ug/g	2.5	PASS
Trichloroethene	NMT 80	<LOQ	ug/g	2.0	PASS
Pyridine	NMT 200	<LOQ	ug/g	5.0	PASS
2-Hexanone	NMT 50	<LOQ	ug/g	5.0	PASS
Tetralin	NMT 100	<LOQ	ug/g	2.5	PASS

Residual Solvents: Class III (GC-MS)		Method Code: T201		Tested: 26MAR2025   1244	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Pentane	NMT 5000	<LOQ	ug/g	125	PASS
Ethanol	NMT 5000	<LOQ	ug/g	125	PASS
Diethyl Ether	NMT 5000	<LOQ	ug/g	125	PASS
Acetone	NMT 5000	<LOQ	ug/g	125	PASS
Ethyl Formate	NMT 5000	<LOQ	ug/g	125	PASS
Isopropanol	NMT 5000	<LOQ	ug/g	125	PASS
Methyl Acetate	NMT 5000	<LOQ	ug/g	125	PASS
Methyl tert-Butyl Ether	NMT 5000	<LOQ	ug/g	125	PASS
1-Propanol	NMT 5000	<LOQ	ug/g	125	PASS
2-Butanone	NMT 5000	<LOQ	ug/g	125	PASS
Ethyl Acetate	NMT 5000	<LOQ	ug/g	125	PASS
2-Butanol	NMT 5000	<LOQ	ug/g	125	PASS
2-Methyl-1-Propanol	NMT 5000	<LOQ	ug/g	125	PASS
Isopropyl Acetate	NMT 5000	<LOQ	ug/g	125	PASS
Heptane	NMT 5000	<LOQ	ug/g	125	PASS
1-Butanol	NMT 5000	<LOQ	ug/g	125	PASS
Propyl Acetate	NMT 5000	<LOQ	ug/g	125	PASS
4-Methyl-2-Pentanone	NMT 5000	<LOQ	ug/g	125	PASS
Isoamyl Alcohol	NMT 5000	<LOQ	ug/g	125	PASS
Isobutyl Acetate	NMT 5000	<LOQ	ug/g	125	PASS

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
1-Pentanol	NMT 5000	<LOQ	ug/g	125	PASS
Butyl Acetate	NMT 5000	<LOQ	ug/g	125	PASS
Dimethylsulfoxide	NMT 5000	<LOQ	ug/g	125	PASS
Anisole	NMT 5000	<LOQ	ug/g	125	PASS

Microbiological Examination		Method Code: T005		Tested: 24MAR2025   1215	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Total Aerobic Plate Count	10,000,000 CFU / g	60	CFU/g	20 CFU / g	PASS
Total Yeast and Mold	100,000 CFU / g	Not Detected	CFU/g	20 CFU / g	PASS
Total Coliforms	10,000 CFU / g	Not Detected	CFU/g	20 CFU / g	PASS
Escherichia coli	Not Detected in 10 g	Not Detected	N/A	1 CFU / 10 g	PASS
Salmonella	Not Detected in 25 g	Not Detected	N/A	1 CFU / 25 g	PASS

Pesticides (GC-MS/MS:1/5)		Method Code: T401		Tested: 25MAR2025   1540	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Acephate	NMT 0.1	ND	mg/Kg	0.0286	PASS
Azinphos-ethyl	NMT 0.1	ND	mg/Kg	0.0286	PASS
Azinphos-methyl	NMT 1	ND	mg/Kg	0.0286	PASS
Bromophos-ethyl	NMT 0.05	ND	mg/Kg	0.0286	PASS
Bromophos-methyl	NMT 0.05	ND	mg/Kg	0.0286	PASS
Chlorfenvinphos	NMT 0.5	ND	mg/Kg	0.0286	PASS
Deltamethrin	NMT 0.5	ND	mg/Kg	0.0286	PASS
Diazinon	NMT 0.5	ND	mg/Kg	0.0286	PASS
Dichlofluanid	NMT 0.1	ND	mg/Kg	0.0286	PASS
Dichlorvos	NMT 1	ND	mg/Kg	0.0573	PASS
Dimethoate (and Omethoate, sum)	NMT 0.1	ND	mg/Kg	0.0286	PASS
Omethaote	Report Results	ND	mg/Kg	0.0286	N/A
Dithiocarbamates (sum, as CS2)	NMT 2	ND	mg/Kg	0.2863	PASS
Dithiocarbamate, manganese	Report Results	ND	mg/Kg	0.1431	N/A
Dithiocarbamate, zinc	Report Results	ND	mg/Kg	0.1431	N/A
Ethion	NMT 2	ND	mg/Kg	0.0286	PASS
Etrimphos	NMT 0.05	ND	mg/Kg	0.0286	PASS
Fenchlorphos	NMT 0.1	ND	mg/Kg	0.0573	PASS
Fenchlorphos oxon	Report Results	ND	mg/Kg	0.0286	N/A
Fenitrothion	NMT 0.5	ND	mg/Kg	0.0286	PASS
Fenpropathrin	NMT 0.03	ND	mg/Kg	0.0286	PASS

Pesticides (GC-MS/MS:2/5)		Method Code: T401		Tested: 25MAR2025   1540	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Fensulfothions (sum)	NMT 0.05	ND	mg/Kg	0.0286	PASS
Fensulfothion-oxon	Report Results	ND	mg/Kg	0.0286	N/A
Fensulfothion-oxonsulfone	Report Results	ND	mg/Kg	0.0286	N/A
Fensulfothion-sulfone	Report Results	ND	mg/Kg	0.0286	N/A
Fenthions (sum)	NMT 0.05	ND	mg/Kg	0.0286	PASS
Fenthion oxon	Report Results	ND	mg/Kg	0.0286	N/A

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Fenthion oxonsulfone	Report Results	ND	mg/Kg	0.0286	N/A
Fenthion oxonsulfoxide	Report Results	ND	mg/Kg	0.0286	N/A
Fenthion sulfone	Report Results	ND	mg/Kg	0.0286	N/A
Fenthion sulfoxide	Report Results	ND	mg/Kg	0.0286	N/A
Flucythrinate	NMT 0.05	ND	mg/Kg	0.0286	PASS
Fluvalinate	NMT 0.05	ND	mg/Kg	0.0286	PASS
Fonophos	NMT 0.05	ND	mg/Kg	0.0286	PASS
Malathion (and oxon, sum)	NMT 1	ND	mg/Kg	0.0573	PASS
Malathion oxon	Report Results	ND	mg/Kg	0.0286	N/A
Mecarbam	NMT 0.05	ND	mg/Kg	0.0286	PASS
Methacriphos	NMT 0.05	ND	mg/Kg	0.0286	PASS
Methamidophos	NMT 0.05	ND	mg/Kg	0.0286	PASS
Methadathion	NMT 0.2	ND	mg/Kg	0.0286	PASS
Monocrotophos	NMT 0.1	ND	mg/Kg	0.0286	PASS

Pesticides (GC-MS/MS:3/5)		Method Code: T401		Tested: 25MAR2025   1540	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Parathion-ethyl (and oxon, sum)	NMT 0.5	ND	mg/Kg	0.0573	PASS
Paraoxon ethyl	Report Results	ND	mg/Kg	0.0286	N/A
Parathion-methyl (and oxon, sum)	NMT 0.2	ND	mg/Kg	0.0573	PASS
Paraoxon methyl	Report Results	ND	mg/Kg	0.0286	N/A
Pendimethalin	NMT 0.1	ND	mg/Kg	0.0286	PASS
Phosalone	NMT 0.1	ND	mg/Kg	0.0286	PASS
Pirimiphos ethyl	NMT 0.05	ND	mg/Kg	0.0286	PASS
Pirimphos methyl (and N-desethyl-, sum)	NMT 4	ND	mg/Kg	0.0859	PASS
N-desethylpirimiphos methyl	Report Results	ND	mg/Kg	0.0573	N/A
Procymidone	NMT 0.1	ND	mg/Kg	0.0286	PASS
Profenofos	NMT 0.1	ND	mg/Kg	0.0286	PASS
Prothiophos	NMT 0.05	ND	mg/Kg	0.0286	PASS
Pyrethrum (sum of following six)	NMT 3	ND	mg/Kg	0.1431	PASS
Cinerin I	Report Results	ND	mg/Kg	0.1431	N/A
Cinerin II	Report Results	ND	mg/Kg	0.1431	N/A
Jasmoline I	Report Results	ND	mg/Kg	0.1431	N/A
Jasmoline II	Report Results	ND	mg/Kg	0.1431	N/A
Pyrethrin I	Report Results	ND	mg/Kg	0.1431	N/A
Pyrethrin II	Report Results	ND	mg/Kg	0.1431	N/A
Quinalphos	NMT 0.05	ND	mg/Kg	0.0286	PASS
Tetradifon	NMT 0.3	ND	mg/Kg	0.0286	PASS
Vinclozolin	NMT 0.4	ND	mg/Kg	0.0286	PASS

Pesticides (GC-MS/MS:4/5)		Method Code: T401		Tested: 25MAR2025   1540	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Aldrin (and Dieldrin, sum)	NMT 0.05	ND	mg/Kg	0.0286	PASS
Dieldrin	Report Results	ND	mg/Kg	0.0286	N/A
Alachlor	NMT 0.05	ND	mg/Kg	0.0286	PASS

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Bromopropylate	NMT 3	ND	mg/Kg	0.0286	PASS
Chlordanes (sum)	NMT 0.05	ND	mg/Kg	0.0286	PASS
cis-Chlordane	Report Results	ND	mg/Kg	0.0286	N/A
trans-Chlordane	Report Results	ND	mg/Kg	0.0286	N/A
oxy-Chlordane	Report Results	ND	mg/Kg	0.0573	N/A
Chlorpyrifos-ethyl	NMT 0.2	ND	mg/Kg	0.0286	PASS
Chlorpyrifos-methyl	NMT 0.1	ND	mg/Kg	0.0286	PASS
Chlorthal-dimethyl	NMT 0.01	ND	mg/Kg	0.01	PASS
Cyfluthrin	NMT 0.1	ND	mg/Kg	0.0573	PASS
lambda-Cyhalothrin	NMT 1	ND	mg/Kg	0.0286	PASS
Cypermethrins	NMT 1	0.065	mg/Kg	0.0573	PASS
DDT (sum of DDT, DDE, DDD)	NMT 1	ND	mg/Kg	0.0286	PASS
o,p-DDT	Report Results	ND	mg/Kg	0.0286	N/A
p,p-DDT	Report Results	ND	mg/Kg	0.0286	N/A
o,p-DDE	Report Results	ND	mg/Kg	0.0286	N/A
p,p-DDE	Report Results	ND	mg/Kg	0.0286	N/A
o,p-DDD	Report Results	ND	mg/Kg	0.0286	N/A
p,p-DDD	Report Results	ND	mg/Kg	0.0286	N/A
Dicofol	NMT 0.5	ND	mg/Kg	0.0286	PASS

Pesticides (GC-MS/MS:5/5)	Method Code: T401			Tested: 25MAR2025   1540	
PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Endosulfans	NMT 3	ND	mg/Kg	0.0286	PASS
Endosulfan I	Report Results	ND	mg/Kg	0.0286	N/A
Endosulfan II	Report Results	ND	mg/Kg	0.0286	N/A
Endosulfan sulfate	Report Results	ND	mg/Kg	0.0286	N/A
Endrin	NMT 0.05	ND	mg/Kg	0.0286	PASS
Fenvalderate (and esfen-, sum)	NMT 1.5	ND	mg/Kg	0.0573	PASS
Esfenvalerate	Report Results	ND	mg/Kg	0.0573	N/A
Heptachlor (and epoxide, sum)	NMT 0.05	ND	mg/Kg	0.0286	PASS
Heptachlor epoxide (cis/trans)	Report Results	ND	mg/Kg	0.0286	N/A
Hexachlorobenzene	NMT 0.1	ND	mg/Kg	0.0286	PASS
Hexachlorohexanes (sum)	NMT 0.3	ND	mg/Kg	0.0286	PASS
alpha-Hexachlorocyclohexane	Report Results	ND	mg/Kg	0.0286	N/A
beta-Hexachlorocyclohexane	Report Results	ND	mg/Kg	0.0286	N/A
delta-Hexachlorocyclohexane	Report Results	ND	mg/Kg	0.0286	N/A
Lindane	NMT 0.6	ND	mg/Kg	0.0286	PASS
Methoxychlor	NMT 0.05	ND	mg/Kg	0.0286	PASS
Mirex	NMT 0.01	ND	mg/Kg	0.01	PASS
Pentachloroanisole	NMT 0.01	ND	mg/Kg	0.01	PASS
Permethrins (sum)	NMT 1	ND	mg/Kg	0.0286	PASS
cis-Permethrin	Report Results	ND	mg/Kg	0.0286	N/A
trans-Permethin	Report Results	ND	mg/Kg	0.0286	N/A
Piperonyl butoxide	NMT 3	0.038	mg/Kg	0.0286	PASS
Quintozene (sum of following two)	NMT 1	ND	mg/Kg	0.2576	PASS
Pentachloroaniline	Report Results	ND	mg/Kg	0.0573	N/A

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PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Methyl pentachlorophenyl sulfide	Report Results	ND	mg/Kg	0.1431	N/A
Tecnazene	NMT 0.05	ND	mg/Kg	0.0286	PASS
S-421	NMT 0.02	ND	mg/Kg	0.01	PASS

## Additional Report Notes

T401 performed by a registered outsourcing facility.

## Revision History

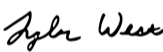
rev 00 - Initial release.

## Abbreviations

**ID:** identification, **N/A:** not applicable, **LOQ:** limit of quantitation, **CFU:** colony forming units, **w/w%:** weight by weight percent, **mg:** milligrams, **g:** grams, **ug:** micrograms, **mL:** milliliters, **ND:** not detected, **<LOQ:** below limit of quantitation, **NMT:** no more than, **NLT:** no less than, **UHPLC:** ultra-high performance liquid chromatography, **GC:** gas chromatography, **DAD:** diode array detection/detector, **MS:** mass spectroscopy/spectrometer, **ICP:** inductively coupled plasma, **ISO:** International Organization for Standardization, **USP:** United States Pharmacopeia

## Authorization

This report has been authorized for release from Cora Science by:

<b>Signature:</b>		<b>Position:</b>	Laboratory Director
<b>Name:</b>	Tyler West	<b>Department:</b>	Management
		<b>Date:</b>	31MAR2025