

Danodan Hempworks 6019 NE MLK JR. BLVD. PORTLAND, OR 97217 (503) 290-4079 Sample Type: Tinctures Sample Date: 9/18/2020 Analysis Date: 9/24/2020 Report Date: 9/25/2020 Metrc Batch ID:

Metrc Sample ID:

Harvest/Process Date: 9/15/2020 Report ID: LS-200925-1 Sample Plan ID:SP-200918-1-A Sample Procedure: 160721\_LAB-SOP\_SampleCollection-v008

#### **Potency**

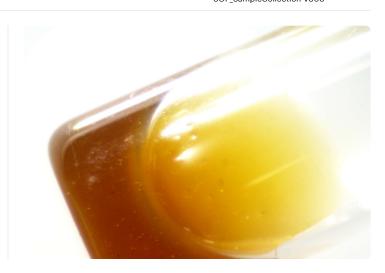
Potency Analysis Date: 9/24/2020 Potency Batch ID: CAN\_092420C Potency Method: JAOAC 2015.1

## 15.3 mg/mL Total CBD 1.40%

#### 0.584 mg/ml

Total THC 0.0536%

Samples: BPC-BJF-NMN, DJC-DCB-SJW



Analyte	Description	LOQ	RPD (%)	Min.	Max.	Avg.
<b>Д9ТНС</b>	Delta-9 Tetrahydrocannabinol	0.087	2.61	0.577	0.592	0.584
THCA	Tetrahydrocannabinolic acid	0.087	0.00	ND	ND	ND
CBD	Cannabidiol	0.087	0.889	15.0	15.1	15.1
CBDA	Cannabidiolic acid	0.087	1.67	0.194	0.197	0.196
Δ8ΤΗC	Delta-8 Tetrahydrocannabinol*	0.087	0.00	ND	ND	ND
THCV	Tetrahydrocannabivarin*	0.087	0.00	ND	ND	ND
CBG	Cannabigerol*	0.087	4.49	0.308	0.323	0.316
CBGA	Cannabigerolic acid*	0.087	0.00	ND	ND	ND
CBC	Cannabichromene*	0.087	0.203	0.537	0.538	0.538
CBCA	Cannabichromenic acid*	0.087	0.00	ND	ND	ND
CBN	Cannabinol	0.087	0.00	ND	ND	ND
Total THC	Δ9THC + (THCA × 0.877)		2.61	0.577	0.592	0.584
Total CBD	CBD + (CBDA × 0.877)		0.860	15.2	15.3	15.3
Total			0.613	16.6	16.8	16.7

#### **Compliance**

Pesticides	Within limits	Analysis Date: 9/24/2020	Pass 🕢
Solvents	Within limits	Analysis Date: 9/24/2020	Pass 🕢
Potency	Within limits	Analysis Date: 9/24/2020	Pass 🕢

Bryce Kidd, Ph.D. Lab Director

Aaron Troyer
Chief Science Officer

I S - 2 9 9 9 2 5 - 1



Danodan Hempworks 6019 NE MLK JR. BLVD. PORTLAND, OR 97217 (503) 290-4079 Sample Type: Tinctures Sample Date: 9/18/2020 Analysis Date: 9/24/2020 Report Date: 9/25/2020 Metrc Batch ID:

Metrc Sample ID:

Harvest/Process Date: 9/15/2020

Report ID: LS-200925-1 Sample Plan ID:SP-200918-1-A Sample Procedure: 160721\_LAB-SOP\_SampleCollection-v008



Pesticides Analysis Date: 9/24/2020 Pesticides Batch ID: PST 092420A Method: EN 15662 Unit: μg/g (ppm) Pass 🕢

Analyte	DJC-DCB-SJW	BPC-BJF-NMN	Limits	LOQ	Notes	Status
Abamectin	ND	ND	0.5	0.1		Pass
Acephate	ND	ND	0.4	0.1		Pass
Acequinocyl	ND	ND	2.0	1.5		Pass
Acetamiprid	ND	ND	0.2	0.1		Pass
Aldicarb	ND	ND	0.4	0.1		Pass
Azoxystrobin	ND	ND	0.2	0.1		Pass
Bifenazate	ND	ND	0.2	0.1		Pass
Bifenthrin	ND	ND	0.2	0.1		Pass
Boscalid	ND	ND	0.4	0.1		Pass
Carbaryl	ND	ND	0.2	0.1		Pass
Carbofuran	ND	ND	0.2	0.1		Pass
Chlorantraniliprole	ND	ND	0.2	0.1		Pass
Chlorfenapyr	ND	ND	1.0	0.1		Pass
Chlorpyrifos	ND	ND	0.2	0.1		Pass
Clofentezine	ND	ND	0.2	0.1		Pass
Cyfluthrin	ND	ND	1.0	0.5		Pass
Cypermethrin	ND	ND	1.0	0.1		Pass
Daminozide	ND	ND	1.0	0.5		Pass
Diazinon	ND	ND	0.2	0.1		Pass
Dichlorvos (DDVP)	ND	ND	1.0	0.5		Pass
Dimethoate	ND	ND	0.2	0.1		Pass
Ethoprophos	ND	ND	0.2	0.1		Pass
Etofenprox	ND	ND	0.4	0.1		Pass
Etoxazole	ND	ND	0.2	0.1		Pass
Fenoxycarb	ND	ND	0.2	0.1		Pass
Fenpyroximate	ND	ND	0.4	0.1		Pass
Fipronil	ND	ND	0.4	0.1		Pass
Flonicamid	ND	ND	1.0	0.1		Pass
Fludioxonil	ND	ND	0.4	0.1		Pass
Hexythiazox	ND	ND	1.0	0.1		Pass
Imazalil	ND	ND	0.2	0.1		Pass
Imidacloprid	ND	ND	0.4	0.1		Pass
Kresoxim-methyl	ND	ND	0.4	0.1		Pass
Malathion	ND	ND	0.2	0.1		Pass

Analyte	DJC-DCB-SJW	BPC-BJF-NMN	Limits	LOQ	Notes	Status
Metalaxyl	ND	ND	0.2	0.1		Pass
Methiocarb	ND	ND	0.2	0.1		Pass
Methomyl	ND	ND	0.4	0.1		Pass
Methyl Parathion	ND	ND	0.2	0.2		Pass
MGK-264	ND	ND	0.2	0.2		Pass
Myclobutanil	ND	ND	0.2	0.1		Pass
Naled	ND	ND	0.5	0.2		Pass
0xamy1	ND	ND	1.0	0.1		Pass
Paclobutrazol	ND	ND	0.4	0.1		Pass
Permethrins	ND	ND	0.2	0.1		Pass
Phosmet	ND	ND	0.2	0.1		Pass
Piperonyl Butoxide	ND	ND	2.0	0.1		Pass
Prallethrin	ND	ND	0.2	0.1		Pass
Propiconazole	ND	ND	0.4	0.1		Pass
Propoxur	ND	ND	0.2	0.1		Pass
Pyrethrins	ND	ND	1.0	0.5		Pass
Pyridaben	ND	ND	0.2	0.1		Pass
Spinosad	ND	ND	0.2	0.1		Pass
Spiromesifen	ND	ND	0.2	0.1		Pass
Spirotetramat	ND	ND	0.2	0.1		Pass
Spiroxamine	ND	ND	0.4	0.1		Pass
Tebuconazole	ND	ND	0.4	0.1		Pass
Thiacloprid	ND	ND	0.2	0.1		Pass
Thiamethoxam	ND	ND	0.2	0.1		Pass
Trifloxystrobin	ND	ND	0.2	0.1		Pass



Danodan Hempworks 6019 NE MLK JR. BLVD. PORTLAND, OR 97217 (503) 290-4079 Sample Type: Tinctures Sample Date: 9/18/2020 Analysis Date: 9/24/2020 Report Date: 9/25/2020 Metrc Batch ID:

Metrc Sample ID:

Harvest/Process Date: 9/15/2020

Report ID: LS-200925-1 Sample Plan ID:SP-200918-1-A Sample Procedure: 160721\_LAB-SOP\_SampleCollection-v008

(<u>E</u>)

#### Pesticides Quality Control Data

LCS Spike LCS Rec (%) Limits (%) Notes Analyte Blank LOQ LCS Abamectin 0.1 0.945 1.00 94.5 50 - 150 Acenhate ND 0.1 0.888 1 99 88.8 50 - 150 Acequinocyl ND 1.5 1.10 1.00 110 50 - 150 Acetamiprid ND 0.1 0.929 1 99 92.9 50 - 150 Aldicarb ND 0.1 0.929 1.00 92.9 50 - 150 Azoxystrobin ND 0.1 1.01 1.00 101 50 - 150 170 50 - 150 Bifenazate ND Bifenthrin ND 0.1 1.02 102 50 - 150 1.00 Boscalid ND 0.1 0.966 1.00 96.6 50 - 150 Carbarvl ND 0.1 0.974 1 99 97.4 50 - 150 ND 0.1 0.906 1.00 50 - 150 Chlorantraniliprole ND 0.1 1.04 1.00 104 50 - 150 38.7 50 - 150 LR Chlorfenapyr 0.1 0.387 1.00 Chlorpyrifos 0.1 1.07 50 - 150 ND 1.00 107 Clofentezine ND 0.821 1.00 82.1 50 - 150 Cyfluthrin ND 9.5 1.14 1 99 114 50 - 150 Cypermethrin 123 50 - 150 1.23 1.00 Daminozide 0.5 0.209 29.9 10 - 150 ND 1.00 ND 1.00 50 - 150 0.5 1.31 Dichlorvos (DDVP) ND 1.00 131 50 - 150 Dimethoate ND 0.1 0.962 1.00 96.2 50 - 150 Ethoprophos ND 0.1 1.02 1.00 102 50 - 150 Etofenprox ND 0.1 0.985 1.00 98.5 50 - 150 119 Etoxazole ND 0.1 1.10 1.00 50 - 150 Fenoxycarb ND 1.07 1.00 107 50 - 150 50 - 150 Fenpyroximate ND 0.1 0.910 1 99 91 A Fipronil ND 0.1 0.870 1.00 87.0 50 - 150 Flonicamid ND 0.1 0.984 1.00 98.4 50 - 150 Fludioxonil ND 0.1 0.455 1.00 45.5 50 - 150 Hexythiazox ND 0.1 1.16 1.00 116 50 - 150 Imazalil ND 1.00 124 50 - 150 0.1 1.24 Imidacloprid ND 0.1 0.897 1.00 89.7 50 - 150 Kresoxim-methyl ND 0.1 0.981 1.00 98.1 50 - 150 50 - 150 Malathion ND 0.1 0.982 1.00 98.2

Pesticides QC Analysis Date: 9/24/2020 Pesticides QC Batch ID: PST 092420A

Method: EN 15662 Unit: μg/g (ppm)

Blank	LOQ	LCS	LCS Spike	LCS Rec (%)	Limits (%)	Notes
ND	0.1	0.968	1.00	96.8	50 - 150	
ND	0.1	0.984	1.00	98.4	50 - 150	
ND	0.1	0.954	1.00	95.4	50 - 150	
ND	0.2	2.05	1.00	205	30 - 150	HB
ND	0.2	0.306	0.600	51.0	50 - 150	
ND	0.1	1.01	1.00	101	50 - 150	
ND	0.2	1.01	1.00	101	50 - 150	
ND	0.1	0.984	1.00	98.4	50 - 150	
ND	0.1	0.969	1.00	96.9	50 - 150	
ND	0.1	1.22	1.00	122	50 - 150	
ND	0.1	1.01	1.00	101	50 - 150	
ND	0.1	1.43	1.00	143	50 - 150	
ND	0.1	1.17	1.00	117	50 - 150	
ND	0.1	1.20	1.00	120	50 - 150	
ND	0.1	0.954	1.00	95.4	50 - 150	
ND	0.5	0.883	1.00	88.3	50 - 150	
ND	0.1	1.12	1.00	112	50 - 150	
ND	0.1	1.09	1.00	109	50 - 150	
ND	0.1	1.13	1.00	113	50 - 150	
ND	0.1	0.996	1.00	99.6	50 - 150	
ND	0.1	0.753	1.00	75.3	50 - 150	
ND	0.1	0.975	1.00	97.5	50 - 150	
ND	0.1	0.973	1.00	97.3	50 - 150	
ND	0.1	0.947	1.00	94.7	50 - 150	
ND	0.1	1.01	1.00	101	50 - 150	
	ND N	ND 0.1 ND 0.2 ND 0.2 ND 0.2 ND 0.2 ND 0.1	ND 0.1 0.968 ND 0.1 0.984 ND 0.1 0.954 ND 0.2 2.05 ND 0.2 0.306 ND 0.1 1.01 ND 0.1 0.984 ND 0.1 0.984 ND 0.1 1.22 ND 0.1 1.43 ND 0.1 1.77 ND 0.1 1.20 ND 0.1 1.20 ND 0.1 1.20 ND 0.1 1.20 ND 0.1 1.17 ND 0.1 1.20 ND 0.1 1.12 ND 0.1 1.12 ND 0.1 1.13 ND 0.1 1.09 ND 0.1 1.13 ND 0.1 0.975 ND 0.1 0.975 ND 0.1 0.977 ND 0.1 0.977	ND 0.1 0.968 1.00  ND 0.1 0.984 1.00  ND 0.1 0.954 1.00  ND 0.2 2.05 1.00  ND 0.2 0.306 0.600  ND 0.1 1.01 1.00  ND 0.1 0.984 1.00  ND 0.1 0.984 1.00  ND 0.1 0.984 1.00  ND 0.1 1.22 1.00  ND 0.1 1.22 1.00  ND 0.1 1.43 1.00  ND 0.1 1.43 1.00  ND 0.1 1.20 1.00  ND 0.1 1.10 1.00  ND 0.1 0.954 1.00  ND 0.1 0.955 1.00  ND 0.1 0.975 1.00  ND 0.1 0.973 1.00  ND 0.1 0.973 1.00  ND 0.1 0.977 1.00	ND 0.1 0.968 1.00 96.8  ND 0.1 0.984 1.00 98.4  ND 0.1 0.954 1.00 95.4  ND 0.2 2.05 1.00 205  ND 0.2 0.306 0.600 51.0  ND 0.1 1.01 1.00 101  ND 0.1 0.984 1.00 98.4  ND 0.1 1.01 1.00 101  ND 0.1 0.984 1.00 98.4  ND 0.1 1.22 1.00 122  ND 0.1 1.01 1.00 101  ND 0.1 1.22 1.00 122  ND 0.1 1.01 1.00 101  ND 0.1 1.43 1.00 101  ND 0.1 1.43 1.00 143  ND 0.1 1.17 1.00 117  ND 0.1 1.20 1.00 120  ND 0.1 1.20 1.00 95.4  ND 0.5 0.883 1.00 95.4  ND 0.1 1.12 1.00 112  ND 0.1 1.09 1.00 109  ND 0.1 1.13 1.00 113  ND 0.1 0.996 1.00 99.6  ND 0.1 0.975 1.00 97.5  ND 0.1 0.973 1.00 97.3  ND 0.1 0.947 1.00 94.7	ND 0.1 0.968 1.00 96.8 50 - 150  ND 0.1 0.984 1.00 98.4 50 - 150  ND 0.1 0.954 1.00 95.4 50 - 150  ND 0.2 2.05 1.00 205 30 - 150  ND 0.2 0.306 0.600 51.0 50 - 150  ND 0.1 1.01 1.00 101 50 - 150  ND 0.2 1.01 1.00 98.4 50 - 150  ND 0.1 0.984 1.00 98.4 50 - 150  ND 0.1 1.02 1.00 101 50 - 150  ND 0.1 1.22 1.00 122 50 - 150  ND 0.1 1.43 1.00 101 50 - 150  ND 0.1 1.43 1.00 101 50 - 150  ND 0.1 1.20 1.00 122 50 - 150  ND 0.1 1.20 1.00 150 50 - 150  ND 0.1 1.12 1.00 117 50 - 150  ND 0.1 1.12 1.00 117 50 - 150  ND 0.1 1.12 1.00 112 50 - 150  ND 0.1 1.13 1.00 113 50 - 150  ND 0.1 1.13 1.00 113 50 - 150  ND 0.1 0.996 1.00 99.6 50 - 150  ND 0.1 0.753 1.00 99.6 50 - 150  ND 0.1 0.973 1.00 97.3 50 - 150  ND 0.1 0.973 1.00 97.3 50 - 150



Danodan Hempworks 6019 NE MLK JR. BLVD. PORTLAND, OR 97217 (503) 290-4079 Sample Type: Tinctures Sample Date: 9/18/2020 Analysis Date: 9/24/2020 Report Date: 9/25/2020 Metrc Batch ID:

Metrc Sample ID:

Harvest/Process Date: 9/15/2020 Report ID: LS-200925-1

Sample Plan ID:SP-200918-1-A
Sample Procedure: 160721\_LAB-SOP\_SampleCollection-v008



Solvents Analysis Date: 9/24/2020 Solvents Batch ID: RES 092420A Method: EPA 5021A Unit: μg/g (ppm) Pass 🕢

Analyte	DJC-DCB-SJW	BPC-BJF-NMN	RPD (%)	Limits	LOQ	Notes	Status
1,4-Dioxane	ND	ND	0.00	380.0	50.0		Pass
2-Butanol	ND	ND	0.00	5000.0	250.0		Pass
2-Ethoxyethanol	ND	ND	0.00	160.0	50.0		Pass
Acetone	ND	ND	0.00	5000.0	250.0		Pass
Acetonitrile	ND	ND	0.00	410.0	50.0		Pass
Benzene	ND	ND	0.00	2.0	2.0		Pass
Butanes	ND	ND	0.00	5000.0	250.0		Pass
Cumene	ND	ND	0.00	70.0	50.0		Pass
Cyclohexane	ND	ND	0.00	3880.0	50.0		Pass
Ethyl Acetate	ND	<l0q< td=""><td>0.00</td><td>5000.0</td><td>250.0</td><td></td><td>Pass</td></l0q<>	0.00	5000.0	250.0		Pass
Ethyl Ether	ND	ND	0.00	5000.0	250.0		Pass
Ethylene Glycol	ND	ND	0.00	620.0	250.0		Pass
Ethylene Oxide	ND	ND	0.00	50.0	50.0		Pass
Heptane	ND	ND	0.00	5000.0	250.0		Pass
Hexanes	ND	ND	0.00	290.0	50.0		Pass
Isopropanol (2-Propanol)	ND	ND	0.00	5000.0	50.0		Pass
Isopropyl Acetate	ND	ND	0.00	5000.0	250.0		Pass
Methanol	<l0q< td=""><td><l0q< td=""><td>0.00</td><td>3000.0</td><td>250.0</td><td></td><td>Pass</td></l0q<></td></l0q<>	<l0q< td=""><td>0.00</td><td>3000.0</td><td>250.0</td><td></td><td>Pass</td></l0q<>	0.00	3000.0	250.0		Pass
Dichloromethane	ND	ND	0.00	600.0	50.0		Pass
Pentanes	ND	ND	0.00	5000.0	250.0		Pass
Propane	ND	ND	0.00	5000.0	250.0		Pass
Tetrahydrofuran	ND	ND	0.00	720.0	50.0		Pass
Toluene	ND	ND	0.00	890.0	50.0		Pass
Xylenes	ND	ND	0.00	2170.0	50.0		Pass



Danodan Hempworks 6019 NE MLK JR. BLVD. PORTLAND, OR 97217 (503) 290-4079 Sample Type: Tinctures Sample Date: 9/18/2020 Analysis Date: 9/24/2020 Report Date: 9/25/2020 Metrc Batch ID:

Metrc Sample ID:

Harvest/Process Date: 9/15/2020 Report ID: LS-200925-1

Sample Plan ID:SP-200918-1-A
Sample Procedure: 160721\_LAB-SOP\_SampleCollection-v008

Residual Solvents
Quality Control Data

Solvents QC Analysis Date: 9/24/2020 Solvents QC Batch ID: RES 092420A Method: EPA 5021A Unit: μg/g (ppm)

Analyte	Blank	LOQ	LCS	LCS Spike	LCS Rec (%)	Limits (%)	Notes
1,4-Dioxane	ND	50.0	1040	1000	104	70 - 130	
2-Butanol	ND	250.0	963	1000	96.3	70 - 130	
2-Ethoxyethanol	ND	50.0	1190	1000	119	70 - 130	
Acetone	ND	250.0	1120	1000	112	70 - 130	
Acetonitrile	ND	50.0	1130	1000	113	70 - 130	
Benzene	ND	2.0	20.0	20.0	100	70 - 130	
Butanes	ND	250.0	1810	2000	90.5	70 - 130	
Cumene	ND	50.0	992	1000	99.2	70 - 130	
Cyclohexane	ND	50.0	1070	1000	107	70 - 130	
Ethyl Acetate	ND	250.0	959	1000	95.9	70 - 130	
Ethyl Ether	ND	250.0	1120	1000	112	70 - 130	
Ethylene Glycol	ND	250.0	1210	1000	121	70 - 130	
Ethylene Oxide	ND	50.0	935	1000	93.5	70 - 130	
Heptane	ND	250.0	921	1000	92.1	70 - 130	
Hexanes	ND	50.0	5040	5000	101	70 - 130	
Isopropanol (2-Propanol)	ND	50.0	992	1000	99.2	70 - 130	
Isopropyl Acetate	ND	250.0	980	1000	98.0	70 - 130	
Methanol	ND	250.0	1140	1000	114	70 - 130	
Dichloromethane	ND	50.0	966	1000	96.6	70 - 130	
Pentanes	ND	250.0	2860	3000	95.4	70 - 130	
Propane	ND	250.0	914	1000	91.4	70 - 130	
Tetrahydrofuran	ND	50.0	1010	1000	101	70 - 130	
Toluene	ND	50.0	1050	1000	105	70 - 130	
Xylenes	ND	50.0	4640	4000	116	70 - 130	



Danodan Hempworks 6019 NE MLK JR. BLVD. PORTLAND, OR 97217 (503) 290-4079

Х

Sample Type: Tinctures Sample Date: 9/18/2020 Analysis Date: 9/24/2020 Report Date: 9/25/2020 Metrc Batch ID:

Metrc Sample ID:

Harvest/Process Date: 9/15/2020 Report ID: LS-200925-1

Sample Plan ID:SP-200918-1-A Sample Procedure: 160721\_LAB-SOP\_SampleCollection-v008

#### **Qualifier Flag Descriptions**

J	Reported result is an estimate - the value is less than the minimum calibration level but greater than the estimated detection limit (EDL)
U	The analyte was not detected in the sample at the estimated detection limit (EDL)
E	Exceeds calibration range
D	Dilution data - result was obtained from the analysis of a dilution
В	Analyte found in sample and associated blank
С	Co-eluting compound
R	Relative Percent Difference (RPD) outside control limits
NR	Analyte not reported because of problems in sample preparation or analysis
ND	Non-Detect

EMC Estimated maximum possible concentration - indicates that a peak is detected but did not meet the method required criteria

M Manual integration

PS Peaks split

HB Control acceptance criteria are exceeded high and the associated sample is below the detection limit

LB Control acceptance criteria are exceeded low and the associated sample exceeds the regulatory limit

Results from reinjection/repeat/re-column data

ME Marginal Exceedance

LR Low Recovery Analyte

LOQ Limit of Quantitation



# HOW TO READ OUR CERTIFICATE OF ANALYSIS (COA)

Using Lightscale Labs, we perform all tests required under state law for recreational cannabis, medical cannabis, and industrial hemp. Chromatography is used for all required tests, a technique where liquid or gas separates different cannabinoids, pesticides, and residual solvents so that each can be identified and measured precisely.

# PAGE I CANNABINOID POTENCY



Here you can see the dates related to this particular batch of product, including when it was processed, sampled, analyzed, and when the report was finished.



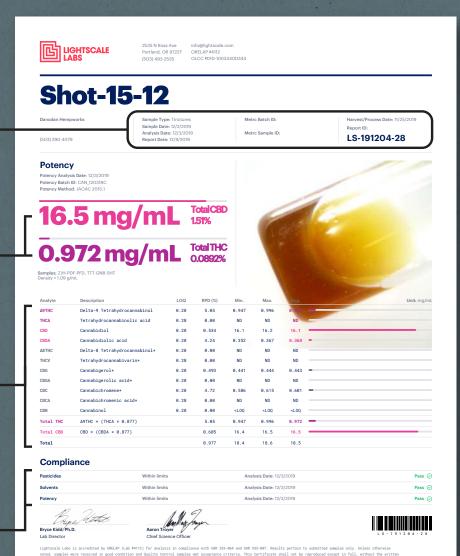
Total CBD and THC content in mg/ml and percentage.



Δ9-THC, THCA, CBD, CBDA, and CBN in accordance with OAR 333-007-0430, plus minor cannabinoids.



PASS or FAIL results for Pesticides, Solvents, and Potency within this COA.





# HOW TO READ OUR CERTIFICATE OF ANALYSIS (COA)

# PAGE 2-3 PESTICIDE DATA



All cannabis must be tested for the presence of a number of different contaminants, including pesticides. Danodan uses hemp that is grown using organic techniques, ensuring we use only the purest, cleanest hemp.



# PAGE 4-5 **RESIDUAL SOLVENT DATA**



Certain solvents can be harmful to human health and safety if they remain in the final product. If a producer uses a solvent or concentrate in their product, thorough testing is required to ensure that potential residual amounts are below recognized safety limits. Danodan uses a high-purity concentrate in our yellow and red label products, so Residual Solvent testing is required. Our blue label products do not use any solvents or concentrates; therefore, no Residual Solvent testing is needed for blue label products.



#### LOQ - (Limit of Quantitation):

The lowest quantity of a substance that can be reliably measured. If a product measures <LOQ, that means that the substance was detected, but at levels below which it can be accurately measured. This is different from ND, which means that none of that substance was detected.

#### RPD (%) - Relative Percent Difference:

Each sample we send to the lab is tested multiple times, and the results of the various tests are averaged to give the final results. RPD represents the average variation in measurement of a certain substance between multiple rounds of testing