

Certificate of Analysis



To view the certificate of analysis for this product, scan the QR code or visit coa.milehighlabs.com and enter the lot number.



Final Product: Cannabidiol Isolate

Lot Number: L23071029

Date of Manufacture: July 2023

Expiration: July 2025

MILE HIGH LABS

AT A GLANCE	Organoleptics <small>Passed</small>	Potency <small>Passed</small>	Residual Solvents <small>Passed</small>	Elemental Impurities <small>Passed</small>	Mycotoxins <small>Passed</small>	Microbials <small>Passed</small>	Pesticides <small>Passed</small>
-------------	-------------------------------------	-------------------------------	---	--	----------------------------------	----------------------------------	----------------------------------

Test	Methodology	Specification	Test Results	Pass/Fail
Color and Appearance	TM-004 ¹ / Contract Lab ²	White, crystalline powder free of particulates	Conforms	PASS
CBD Potency (% w/w)	(% w/w) Contract Lab ²	≥ 98.0%	99.3%	PASS
THC Content (% w/w)	THC(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
	THCA(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
	Total (THC + THCA* 0.877)(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
Related Cannabinoid Content (w/w)	CBN(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
	d8-THC(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
	THCVA(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
	THCV(% w/w) Contract Lab ²	≤ 0.050%	ND	PASS
	CBC(% w/w) Contract Lab ²	Report	ND	PASS
	CBDA(% w/w) Contract Lab ²	Report	ND	PASS
	CBDVA(% w/w) Contract Lab ²	Report	ND	PASS
	CBDV(% w/w) Contract Lab ²	Report	0.33%	PASS
	CBGA(% w/w) Contract Lab ²	Report	ND	PASS
	CBG(% w/w) Contract Lab ²	Report	ND	PASS
	CBL(% w/w) Contract Lab ²	Report	ND	PASS
	CBCA(% w/w) Contract Lab ²	Report	ND	PASS
	Total (Sum of all observed RCs) (% w/w) Calculated ³	Report	0.33%	PASS
	Total Cannabinoids (CBD plus total RCs)(%w/w)	(% w/w) Calculated ³	Report	99.6%
Residual Solvents	Acetone Contract Lab ²	< 1000 ppm	ND	PASS
	Benzene Contract Lab ²	< 2 ppm	ND	PASS
	Butanes Contract Lab ²	< 1,000 ppm	ND	PASS
	Ethanol Contract Lab ²	< 1000 ppm	ND	PASS
	Ethyl Acetate Contract Lab ²	< 1,000 ppm	ND	PASS
	Heptanes Contract Lab ²	< 1,000 ppm	ND	PASS
	Hexane Contract Lab ²	< 60 ppm	ND	PASS
	Isopropyl Alcohol Contract Lab ²	< 1,000 ppm	ND	PASS
	Methanol Contract Lab ²	< 600 ppm	ND	PASS
	Pentane Contract Lab ²	< 1000 ppm	254 ppm	PASS
	Propane Contract Lab ²	< 1000 ppm	ND	PASS
	Toluene Contract Lab ²	< 180 ppm	ND	PASS
	Total Xylenes (m, p, o-xylenes) Contract Lab ²	< 430 ppm	ND	PASS

Specification: FP-001 Revision: v16.0

697 N. Denver Ave, Ste. 132 Loveland, CO 80537

Page 1/2

US Sales
sales@milehighlabs.com
+1 (833) 223-1011

UK Sales
sales@uk.milehighlabs.com
+44 (0) 28 9099 5253

The information described above is offered solely for your consideration, investigation, and independent verification. It is up to you, the customer, to decide whether and how to use this information. Mile High Labs or any of its affiliates (the "Company") makes no representations or warranties about the suitability of any of the Company's products for your specific intended use or any use whatsoever. Furthermore, all express or implied warranties of non-infringement, merchantability, or fitness for a particular purpose are hereby and completely disclaimed. The Company expressly disclaims any responsibility whatsoever for any alleged liability or damage(s) arising out of customer's use of any of the Company's products or relating to any of the foregoing. The results of this report relate only to the material or product analyzed. All contract laboratories are accredited by a third-party accrediting body as a competent testing laboratory pursuant to ISO/IEC 17025 of the International Organization for Standardization.

Certificate of Analysis

Final Product: Cannabidiol Isolate
 Lot Number: L23071029
 Date of Manufacture: July 2023

Expiration: July 2025



MILE HIGH LABS

To view the certificate of analysis for this product, scan the QR code or visit coa.milehighlabs.com and enter the lot number.



Test	Methodology	Specification	Test Results	Pass/Fail	
Elemental Impurities	Arsenic	Contract Lab ²	< 1.0 ppm	ND	PASS
	Cadmium	Contract Lab ²	< 0.4 ppm	ND	PASS
	Lead	Contract Lab ²	< 0.5 ppm	ND	PASS
	Mercury	Contract Lab ²	< 0.2 ppm	ND	PASS
Mycotoxins	B ₁ (AFB ₁)	Contract Lab ²	< 2 ppb	ND	PASS
	B ₂ (AFB ₂)	Contract Lab ²	< 0.5 ppb	ND	PASS
	G ₁ (AFG ₁)	Contract Lab ²	< 0.5 ppb	ND	PASS
	G ₂ (AFG ₂)	Contract Lab ²	< 0.5 ppb	ND	PASS
	Ochratoxin A	Contract Lab ²	< 1.0 ppb	ND	PASS
	Total (B ₁ +B ₂ +G ₁ +G ₂)	Contract Lab ²	< 4 ppb	ND	PASS
Microbials	Salmonella spp.	Contract Lab ²	Absent in 25 g	Absent / 25g	PASS
	Shiga-toxin Producing E. Coli	Contract Lab ²	Absent in 25 g	Absent / 25g	PASS
	Total coliforms	Contract Lab ²	< 100 cfu/g	< 10 cfu/g	PASS
	Total aerobic plate count	Contract Lab ²	< 10,000 cfu/g	< 100 cfu/g	PASS
	Total yeast and mold	Contract Lab ²	< 1,000 cfu/g	< 10 cfu/g	PASS
Pesticides	Individual Pesticide Content	Contract Lab ²	Individual Pesticide Limit ⁴	Conforms	PASS

¹MHL in-house method.
²All contract lab testing is performed by labs that are ISO 17025 and CDPHE certified.
³Calculations performed by MHL Quality.
⁴Refer to tables below for individual pesticides and associated limits.

Abamectin	< 0.25	Cypermethrin	Report	Fipronil	< 0.01	Permethrin	Report	Tetramethrin	Report
Acephate	< 0.05	Cyprodinil	< 0.01	Flonicamid	< 0.025	Phenothrin	Report	Thiabendazole	Report
Acequinolyl	Report	Daminozide	Report	Fludioxonil	< 0.01	Phosmet	Report	Thiacloprid	< 0.01
Acetamiprid	< 0.05	Deltamethrin	Report	Fluopyram	< 0.01	Piperonyl Butoxide	< 1.25	Thiamethoxam	< 0.01
Aldicarb	< 0.5	Diazinon	Report	Hexythiazox	Report	Piridicarb	< 0.01	Thiophanate-methyl	Report
Alethrin	< 0.1	Dichlorvos	< 0.05	Imazalil	< 0.01	Prallethrin	Report	Trifloxystrobin	< 0.01
Altrazine	Report	Dimethoate	< 0.01	Imidacloprid	< 0.01	Propiconazole	Report		
Azadirachtin	< 0.5	Dimethomorph	Report	Iprodione	< 0.50	Propoxur	< 0.01		
Azoxystrobin	< 0.01	Dinotefuran	< 0.05	Kinoprene	< 1.25	Pyraclostrobin	< 0.01		
Benzovindiflupyr	< 0.01	Diuron	Report	Kresoxim-methyl	< 0.15	Pyrethrins	Report		
Bifenazate	< 0.01	Dodemorph	Report	(Lambda) Cyhalothrin	Report	Pyridaben	< 0.02		
Bifenthrin	Report	Endosulfan sulfate	< 2.5	Malathion	< 0.01	Pyriproxyfen	Report		
Boscalid	< 0.01	Endosulfan-alpha	< 2.5	Metolaxyl	< 0.01	Quintozene	Report		
Buprofezin	Report	Endosulfan-beta	< 2.5	Methiocarb	< 0.01	Resmethrin	< 0.05		
Carbaryl	< 0.025	Ethoprophos	< 0.01	Methomyl	< 0.025	Spinetoram	< 0.01		
Carbofuran	< 0.01	Etofenprox	Report	Methoprene	Report	Spinosad	< 0.01		
Chlorantraniliprole	Report	Etoxazole	Report	Mevinphos	< 0.025	Spiriclofen	Report		
Chlorphenapyr	< 1.5	Etridiazole	< 0.15	M/GK-264	Report	Spirimesifen	Report		
Chlorpyrifos	< 0.5	Fenhexamid	Report	Myclobutanil	< 0.01	Spirotetramat	< 0.01		
Clofentazine	< 0.01	Fenoxycarb	< 0.01	Naled	Report	Spiroxamine	Report		
Clothianidin	< 0.025	Fenpyroximate	Report	Novaluron	< 0.025	Tebuconazole	< 0.01		
Coumaphos	< 0.01	Fensulfotlion	< 0.01	Oxamyl	< 1.5	Tebufenozide	< 0.01		
Cyantraniliprole	< 0.01	Fenthion	< 0.01	Paclbutrazol	< 0.01	Teflubenzuron	< 0.025		
Cyfluthrin	Report	Fenvalerate	Report	Parathion-methyl	Report	Tetrachlorvinphos	< 0.01		

Specification: FP-001 Revision: v16.0

697 N. Denver Ave, Ste. 132 Loveland, CO 80537

Ryan Baxter
 Ryan Baxter (Aug 4, 2023 09:56 MDT)

Hadassa A. Villalobos

Page 2/2

Quality Associate II

Quality Manager 8/4/23

Prepared by _____ Date _____

Approved by _____ Date _____

US Sales
sales@milehighlabs.com
 +1 (833) 223-1011

UK Sales
sales@milehighlabs.com
 +44 (0) 28 9099 5253

The information described above is offered solely for your consideration, investigation, and independent verification. It is up to you, the customer, to decide whether and how to use this information. Mile High Labs or any of its affiliates (the "Company") makes no representations or warranties about the suitability of any of the Company's products for your specific intended use or any use whatsoever. Furthermore, all express or implied warranties of non-infringement, merchantability, or fitness for a particular purpose are hereby and completely disclaimed. The Company expressly disclaims any responsibility whatsoever for any alleged liability or damage(s) arising out of customer's use of any of the Company's products or relating to any of the foregoing. The results of this report relate only to the material or product analyzed. All contract laboratories are accredited by a third-party accrediting body as a competent testing laboratory pursuant to ISO/IEC 17025 of the International Organization for Standardization.



MILE HIGH LABS

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 3 April 2023 Version: 8.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Substance name	: Cannabidiol Isolate
EC-No.	: 689-176-3
CAS-No.	: 13956-29-1
Product code	: FP-001
Formula	: C ₂₁ H ₃₀ O ₂
Synonyms	: CBD Isolate
Note	: Cannabidiol isolate is isolated from the Hemp Plant (Cannabis sativa). This SDS is written to address potential worker health and safety issues associated with the handling of the substance.

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses	
Use of the substance/mixture	: Dietary / food supplement / food product / cosmetic ingredient
1.2.2. Uses advised against	
Restrictions on use	: None identified

1.3. Details of the supplier of the safety data sheet

Manufacturer

Mile High Labs
697 N Denver Ave, STE 132
80537 Loveland, Colorado - USA
T +1 (833) 223-1011
sales@milehighlabs.com

1.4. Emergency telephone number

Emergency number	: +1 (833) 223-1011 08:30 - 16:30 MST
------------------	--

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Category 2, Reproductive toxicity	H361fd
Category 2, Specific target organ toxicity, Repeated exposure,	H373

2.2. Label elements

Hazard pictograms



GHS08

Signal word	: Warning
Hazard statements	: H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child (at high doses only). H373 - May causes damage to organs (liver, central nervous system) through prolonged or repeated oral exposure (at high doses only).

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautionary statements : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear eye protection, protective gloves.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No evidence that substance is PBT.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product Identifier	%
Cannabidiol Isolate	(CAS-No.) 13956-29-1 (EC-No.) 689-176-3	≥ 98

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.

First-aid measures after eye contact : If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. If irritation occurs or persists, notify medical personnel and supervisor.

First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Suspected of damaging fertility or the unborn child. Causes damage to organs (liver, central nervous system) through prolonged or repeated exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No information identified.

Explosion hazard : No information identified. High concentrations of finely divided organic particles can explode if ignited.

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon oxides (CO, CO₂).

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

5.3. Advice for firefighters

Firefighting instructions : In case of fire in the surroundings: use the appropriate extinguishing agent. Wear full protective clothing and an approved, positive pressure, self-contained breathing apparatus. Decontaminate all equipment after use.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures : Avoid all unnecessary exposure. Do not get in eyes, on skin, or on clothing.

6.1.2. For emergency responders
Protective equipment : If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated.

Emergency procedures : Avoid all unnecessary exposure. Do not get in eyes, on skin, or on clothing.

6.2. Environmental precautions

Do not empty into drains. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Do not use compressed air for cleaning.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Sections 8 and 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Wear protective equipment as determined by a risk assessment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible products : Strong oxidizing agents.

Storage temperature : Recommended storage temperature-controlled room temperature 68-77°F (20-25°C).

7.3. Specific end use(s)

Dietary / food supplement / food product / cosmetic ingredient.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Name	Issuer	Value
Cannabidiol Isolate	No data available	No data available

8.1.2. Recommended monitoring procedures

No data available

8.1.3. Air contaminants formed

No data available

8.1.4. DNEL and PNEC (EU)

No data available

8.1.5. Control banding

No data available

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

8.2. Exposure controls

Appropriate engineering controls	Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Use local exhaust and/or enclosure at dust generating points. Use engineered local exhaust ventilation (LEV) and/or enclosure for procedures where dust can be released. All containers must be covered while being transferred.
Respiratory protection	Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. At a minimum, a tight-fitting full-face respirator with HEPA filters is required when performing dust - generating operations. (EU EN136) A powered air-purifying respirator (PAPR) with HEPA filters and head cover is required for spill cleanup (EU EN 146).
Hand protection	Wear nitrile or other impervious gloves if skin contact is possible. (EU EN 374) Minimum layer thickness: 0.11 mm Breakthrough time: 480 min When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.
Eye protection	Wear safety glasses with side shields, chemical goggles, or full face shield, if necessary (EU EN 166). Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Skin and body protection	Wear disposable garments appropriate to the task, booties, and safety glasses with side shields. Protective garments (coveralls, disposable coveralls, lab coats) are not to be worn in common areas (e.g., cafeterias) or out-of-doors. Employees must be trained in proper gowning and degowning practices.
Other protective measures	Wash hands in the event of contact with this substance, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors).
Environmental exposure controls	Avoid release to the environment and operate within closed systems wherever practicable. Emissions should be directed to appropriate pollution control or containment devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.
Thermal hazards	Not applicable

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Colour	: White to off-white.
Odour	: odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 66 – 67 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: No oxidizing properties.
Explosive limits	: No data available

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Do not freeze.

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure : May be absorbed by inhalation, skin contact and ingestion.

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Cannabidiol Isolate (13956-29-1)

LD50 oral > 2460 mg/kg (mouse)

Low acute intravenous (i.v.) toxicity with lethal dose for 50% (LD50): 50, 232, 254 and 212 mg/kg in mice, rats, dogs and monkeys, respectively

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified. Cannabidiol was not mutagenic *in vitro* and produced negative genotoxic response *in vivo*.

in vitro (CBD isolate MHL):

Bacterial reverse mutation assay (Ames test – tester strains TA1535, TA1537, TA98, TA100 and TA102 (or WP2 uvrA)): negative

Micronucleus test (human lymphocytes): negative

in vivo:

Rat micronucleus assay: negative

Carcinogenicity : Not classified

Rat, dietary LOAEL: 50 mg/kg/day

Effect: no increase in incidence of tumors in study that was >60% CBD

Not listed by NTP, IARC, ACGIH or OSHA as a carcinogen.

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Reproductive toxicity : Suspected of damaging fertility through repeated oral exposure in a peri/post natal toxicity study in the rat at doses 150 mg/kg/day and above.

Rat fertility study (males and females), Oral, NOAEL:250 mg/kg/day
Effects: none

Developmental toxicity : Suspected of damaging the unborn child through repeated oral exposure in a peri/post natal toxicity study in the rats at doses 150 mg/kg/day and above.

Rat (embryofetal toxicity study), Oral
Maternal NOAEL: 250 mg/kg/day
Fetal, NOAEL:125 mg/kg/day
Effects: Embryofetal mortality at 250 mg/kg/day.

Rabbit (embryofetal toxicity study), Oral
Maternal NOAEL: 80 mg/kg/day
Fetal, NOAEL:80 mg/kg/day
Effects: Maternal toxicity, decreased fetal body weights and increased fetal structural variations at 150 mg/kg/day

Rat (peri/postnatal toxicity study), Oral
Maternal NOAEL: 250 mg/kg/day
Fetal, NOAEL:75 mg/kg/day
Effects: at 150 mg/kg/day and above decreased growth, delayed sexual maturation, decreased activity, and adverse effects on male reproductive organ development (small testes in adult offspring) and fertility

STOT-single exposure : Not classified. Data not sufficient for classification.

Mouse, oral LD50 > 2460 mg/kg

Compound	Type	Route	Species	Dose
Cannabidiol	LD ₅₀	IV	Rat	232 mg/kg
	LD ₅₀	IV	Mouse	50 mg/kg
	LD ₅₀	IV	Dog	254 mg/kg
	LD ₅₀	IV	Monkey	212 mg/kg

STOT-repeated exposure : Rats (90 days) CBD isolate MHL: Oral NOAEL 150 mg/kg/day (highest dose tested). May cause damage to organs (liver, central nervous system) through prolonged or repeated exposure (at high doses only, MHL CBD isolate 450 mg/kg/day).

Aspiration hazard : Not classified. Not applicable.

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 12: Ecological information

12.1. Toxicity

- Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
- Hazardous to the aquatic environment, short-term (acute) : Not classified: No data available
- Hazardous to the aquatic environment, long-term (chronic) : Not classified: No data available
- Additional information : The environmental characteristics of this mixture have not been fully investigated. Releases to the environment should be avoided.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Cannabidiol Isolate (13956-29-1)

No evidence that substance is PBT.

No evidence that substance is vPvB

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Used product should be disposed of according to local, state, and federal regulations. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g. appropriately permitted chemical waste incinerator. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, e.g. appropriately permitted municipal or on-site wastewater treatment facility.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

Based on the available data, this substance is not regulated as a hazardous material/ dangerous good under EU ADR/RID, US DOT, Canada TDG, MERCOSUR (Common Market of the South), IATA, or IMDG.

14.1 UN number

- UN-No. (ADR) : Not applicable
- UN-No. (IMDG) : Not regulated.
- UN-No. (IATA) : Not regulated.
- UN-No. (ADN) : Not applicable
- UN-No. (RID) : Not applicable

14.2. UN proper shipping name

- Proper Shipping Name (ADR) : Not applicable
- Proper Shipping Name (IMDG) : Not regulated.
- Proper Shipping Name (IATA) : Not regulated.
- Proper Shipping Name (ADN) : Not applicable
- Proper Shipping Name (RID) : Not applicable

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not regulated.

IATA

Transport hazard class(es) (IATA) : Not regulated.

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not regulated.

Packing group (IATA) : Not regulated.

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Special transport precautions : Avoid release to the environment.

Overland transport

Not applicable

Transport by sea

Not regulated.

Air transport

Not regulated.

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Cannabidiol Isolate is not on the REACH Candidate List

Cannabidiol Isolate is not on the REACH Annex XIV List

Cannabidiol Isolate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Cannabidiol Isolate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen – Borstvoeding

: The substance is not listed

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen – Vruchtbaarheid

: The substance is not listed

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen – Ontwikkeling

: The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.1.3 US Federal Regulations

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms:

ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; CAS# - Chemical Abstract Services Number; CLP - Classification, Labelling, and Packaging of Substances and Mixtures; DOT - Department of Transportation; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; NOAEL - No Observed Adverse Effect Level; OSHA - Occupational Safety and Health Administration; PBT - Persistent, Bioaccumulative, and Toxic; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; vPvB - Very Persistent and Very Bioaccumulative

Cannabidiol Isolate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Data sources : CBD isolate MHL:

1. GLP Study n. A4265: CBD Isolate MHL: Bacterial mutation assay (*S. Typhimurium* and *E. coli*)
2. GLP Study n. A4266: CBD Isolate MHL: *In vitro* micronucleus test in human lymphocytes
3. Non-GLP Study n. E0591: CBD Isolate MHL: Two weeks preliminary oral toxicity study in the rats including kinetic assessments
4. GLP Study n. A4264: CDB Isolate MHL: 13 weeks oral toxicity study in the rat followed by a 4 week recovery period including kinetic assessments

Literature

5. European Medicines Agency [EMA] (2020) Epidiolex cannabidiol Product information GW Pharma (International) B.V. EMEA/H/C/004675 - II/0008/G. Available at: <https://www.ema.europa.eu/en/medicines/human/EPAR/epidyolex> Last updated: 26/09/2022.

Safety Data Sheet (SDS), EU; US

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Approved

Document Approvals
Approved Date: 4/14/2023

Approval Task Verdict: Approve	Melodie Nye, (M.Nye@milehighlabs.com) Environmental Health & Safety Approval 07-Apr-2023 17:28:34 GMT+0000
-----------------------------------	---

Approval Task Verdict: Approve	Gary Korb, Quality Director (g.korb@milehighlabs.com) Quality Assurance Approval 14-Apr-2023 21:05:04 GMT+0000
-----------------------------------	---

Approved

Certificate of Analysis



To view the certificate of analysis for this product, scan the QR code or visit coa.milehighlabs.com and enter the lot number.



Final Product: Broad Spectrum CBD Distillate 2.0

Lot Number: L2302B003

Date of Manufacture: Feb. 2023 **Expiration:** Feb. 2025

MILE HIGH LABS

AT A GLANCE	Organoleptics <small>Pass</small>	Potency <small>Pass</small>	Residual Solvents <small>Pass</small>	Elemental Impurities <small>Pass</small>	Mycotoxins <small>Pass</small>	Microbials <small>Pass</small>	Pesticides <small>Pass</small>
-------------	-----------------------------------	-----------------------------	---------------------------------------	--	--------------------------------	--------------------------------	--------------------------------

Test	Methodology	Specification	Test Results	Pass/Fail	
Color and Appearance	TM-004 ¹ / Contract Lab ²	Yellow to amber, translucent, viscous to semi-solid liquid.	Conforms	Pass	
CBD Potency	Contract Lab ²	80 – 90%	83%	Pass	
THC Content (% w/w)	THC (Δ ⁹ -Tetrahydrocannabinol)	Contract Lab ²	≤ 0.1%	0.1%	Pass
	THCA (Δ ⁹ -Tetrahydrocannabinolic Acid)	Contract Lab ²	≤ 0.1%	ND	Pass
	Total THC (% w/w, THC + THCA * 0.877)	Contract Lab ²	≤ 0.1%	0.1%	Pass
Related Cannabinoid Content (% w/w)	CBN (Cannabinol)	Contract Lab ²	≤ 0.1%	0.1%	Pass
	d8-THC (Δ ⁸ -Tetrahydrocannabinol)	Contract Lab ²	≤ 0.1%	ND	Pass
	THCV (Tetrahydrocannabivarin)	Contract Lab ²	≤ 0.1%	<LOQ ⁵	Pass
	THCVA (Tetrahydrocannabivarinic acid)	Contract Lab ²	≤ 0.1%	ND	Pass
	CBC (Cannabichromene)	Contract Lab ²	Report % w/w	0.1%	Pass
	CBCA (Cannabichromenic acid)	Contract Lab ²	Report % w/w	ND	Pass
	CBDa (Cannabidiolic acid)	Contract Lab ²	Report % w/w	ND	Pass
	CBDVA (Cannabidivarinic acid)	Contract Lab ²	Report % w/w	ND	Pass
	CBDV (Cannabidivarin)	Contract Lab ²	Report % w/w	1.23%	Pass
	CBGA (Cannabigerolic acid)	Contract Lab ²	Report % w/w	ND	Pass
	CBG (Cannabigerol)	Contract Lab ²	Report % w/w	2.46%	Pass
	CBL (Cannabicyclol)	Contract Lab ²	Report % w/w	ND	Pass
	Total (Sum of all observed RCs)	Contract Lab ²	Report % w/w	4.1%	Pass
Total Cannabinoids (CBD plus total RCs, % w/w)	Contract Lab ²	Report % w/w	87%	Pass	

¹MHL in-house method.

²All contract lab testing is performed by labs that are ISO 17025 and CDPHE certified. ³Calculations performed by MHL Quality

⁴Refer to table on page 3 for individual pesticides and associated limits.

⁵LOQ is 0.05%

Specification: FX-113 Broad Spectrum CBD Distillate 2.0

Version: v2.0

697 N. Denver Ave, Ste. 132 Loveland, CO 80537

Page 1/3

US Sales
sales@milehighlabs.com
 +1 (833) 223-1011

UK Sales
saleseu@milehighlabs.com
 +44 (0) 28 9099 5253

The information described above is offered solely for your consideration, investigation, and independent verification. It is up to you, the customer, to decide whether and how to use this information. Mile High Labs or any of its affiliates (the "Company") makes no representations or warranties about the suitability of any of the Company's products for your specific intended use or any use whatsoever. Furthermore, all express or implied warranties of non-infringement, merchantability, or fitness for a particular purpose are hereby and completely disclaimed. The Company expressly disclaims any responsibility whatsoever for any alleged liability or damage(s) arising out of customer's use of any of the Company's products or relating to any of the foregoing. The results of this report relate only to the material or product analyzed. All contract laboratories are accredited by a third-party accrediting body as a competent testing laboratory pursuant to ISO/IEC 17025 of the International Organization for Standardization.

Certificate of Analysis



To view the certificate of analysis for this product, scan the QR code or visit coa.milehighlabs.com and enter the lot number.



Final Product: Broad Spectrum CBD Distillate 2.0

Lot Number: L2302B003

Date of Manufacture: Feb.2023 **Expiration:** Feb. 2025

MILE HIGH LABS

Test	Methodology	Specification	Test Results	Pass/Fail	
Residual Solvents	Acetone	Contract Lab ²	< 1,000 ppm	ND	Pass
	Benzene	Contract Lab ²	< 2 ppm	ND	Pass
	Butanes	Contract Lab ²	< 1,000 ppm	0.30 ppm	Pass
	Ethanol	Contract Lab ²	< 1,000 ppm	ND	Pass
	Ethyl Acetate	Contract Lab ²	< 1,000 ppm	ND	Pass
	Heptanes	Contract Lab ²	< 1,000 ppm	ND	Pass
	Hexane	Contract Lab ²	< 60 ppm	ND	Pass
	Isopropyl Alcohol	Contract Lab ²	< 1,000 ppm	ND	Pass
	Methanol	Contract Lab ²	< 600 ppm	ND	Pass
	Pentane	Contract Lab ²	< 1,000 ppm	65 ppm	Pass
	Propane	Contract Lab ²	< 1,000 ppm	ND	Pass
	Toluene	Contract Lab ²	< 1,000 ppm	ND	Pass
	Total Xylenes (m, p, o-xylenes)	Contract Lab ²	< 430 ppm	ND	Pass
Pesticides	Individual Pesticide Content	Contract Lab ²	Individual Pesticide Limit ⁴	Conforms	Pass
Elemental Impurities	Arsenic (ppm)	Contract Lab ²	< 1.5 ppm	ND	Pass
	Cadmium (ppm)	Contract Lab ²	< 0.5 ppm	ND	Pass
	Lead (ppm)	Contract Lab ²	< 0.5 ppm	ND	Pass
	Mercury (ppm)	Contract Lab ²	< 1.5 ppm	ND	Pass
Mycotoxins	B ₁ (AFB ₁)	Contract Lab ²	< 2 ppb	ND	Pass
	B ₂ (AFB ₂)	Contract Lab ²	< 0.5 ppb	ND	Pass
	G ₁ (AFG ₁)	Contract Lab ²	< 0.5 ppb	ND	Pass
	G ₂ (AFG ₂)	Contract Lab ²	< 0.5 ppb	ND	Pass
	Ochratoxin	Contract Lab ²	< 1.0 ppb	ND	Pass
	Total (B ₁ +B ₂ +G ₁ +G ₂)	Contract Lab ²	< 4 ppb	ND	Pass
Microbials	Salmonella spp.	Contract Lab ²	Absent in 25 g	Absent in 25 g	Pass
	E. coli (STEC) - Bacteria	Contract Lab ²	Absent in 25 g	Absent in 25 g	Pass
	Total coliforms	Contract Lab ²	< 100 cfu/g	< 100 cfu/g	Pass
	Total aerobic plate count	Contract Lab ²	< 10,000 cfu/g	< 10000 cfu/g	Pass
	Total yeast and mold	Contract Lab ²	< 1,000 cfu/g	< 1000 cfu/g	Pass

¹MHL in-house method.

²All contract lab testing is performed by labs that are ISO 17025 and CDPHE certified.

³Calculations performed by MHL Quality

⁴Refer to table on page 3 for individual pesticides and associated limits.

697 N. Denver Ave, Ste. 132 Loveland, CO 80537

Page 2/3

Specification: FX-113 Broad Spectrum CBD Distillate 2.0

Version: v2.0

US Sales
sales@milehighlabs.com
 +1 (833) 223-1011

UK Sales
salesau@milehighlabs.com
 +44 (0) 28 9089 5253

The information described above is offered solely for your consideration, investigation, and independent verification. It is up to you, the customer, to decide whether and how to use this information. Mile High Labs or any of its affiliates (the "Company") makes no representations or warranties about the suitability of any of the Company's products for your specific intended use or any use whatsoever. Furthermore, all express or implied warranties of non-infringement, merchantability, or fitness for a particular purpose are hereby and completely disclaimed. The Company expressly disclaims any responsibility whatsoever for any alleged liability or damage(s) arising out of customer's use of any of the Company's products or relating to any of the foregoing. The results of this report relate only to the material or product analyzed. All contract laboratories are accredited by a third-party accrediting body as a competent testing laboratory pursuant to ISO/IEC 17025 of the International Organization

Certificate of Analysis



To view the certificate of analysis for this product, scan the QR code or visit coa.milehighlabs.com and enter the lot number.



Final Product: Broad Spectrum CBD Distillate 2.0

Lot Number: L2302B003

Date of Manufacture: Feb. 2023 **Expiration:** Feb. 2025

MILE HIGH LABS

Residual Pesticide Limits (ppb)

Abamectin	300	Fenoxycarb	100	Spiromesifen	3,000
Acephate	3,000	Fenpyroximate	2,000	Spirotetramet	3,000
Acequinocyl	2,000	Fipronil	100	Spiroxamine	100
Acelamiprid	3,000	Flonicamid	2,000	Tebuconazole	1,000
Aldicarb	100	Fludioxonil	3,000	Thiacloprid	100
Azoxystrobin	3,000	Hexythiazox	2,000	Thiamethoxam	1,000
Bifenazate	3,000	Imazalil	100	Trifloxystrobin	3,000
Bifenthrin	500	Imidacloprid	1,000		
Boscalid	3,000	Kresoxim-Methyl	1,000		
Caplan	3,000	Malathion	2,000		
Carbaryl	500	Metaxalyl	3,000		
Carbofuran	100	Methiocarb	100		
Chlorantraniliprole	3,000	Methomyl	100		
Chlordane	100	Methyl Parathion	100		
Chlorfenapyr	100	Mevinphos	100		
Chlormequat Chloride	3,000	Myclobutanil	3,000		
Chlorpyrifos	100	Naled	500		
Clofentezine	500	Oxaryl	500		
Coumaphos	100	Pactobutrazol	100		
Cyfluthrin	1,000	Pentachloronitrobenzene	200		
Cypermethrin	1,000	Permethrin	1,000		
Daminozide	100	Phosmet	200		
Diazinon	200	Piperonyl butoxide	3,000		
Dichlorvos (DDVP)	100	Prallethrin	400		
Dimethoate	100	Propiconazole	1,000		
Dimethomorph	3,000	Propoxur	100		
Ethoprop(hos)	100	Pyrethrins	1,000		
Etofenprox	100	Pyridaben	3,000		
Etoxazole	1,500	Spinetoram	3,000		
Fenhexamid	3,000	Spinosad A & D	3,000		

*MHL in-house method.

*All contract lab testing is performed by labs that are ISO 17025 and CDPHE certified.

*Calculations performed by MHL Quality

*Refer to table on page 3 for individual pesticides and associated limits.

697 N. Denver Ave, Ste. 132 Loveland, CO 80537

Page 3/3

Specification: FX-113 Broad Spectrum CBD Distillate 2.0

Version: v2.0

Suzanne Butler

Suzanne Butler (Mar 28, 2023 09:28 MDT)

Ryan Baxter

Ryan Baxter (Mar 28, 2023 11:07 MDT)

Quality Designee

Prepared by

Date

Quality Associate

Approved by

Date

US Sales
sales@milehighlabs.com
+1 (833) 223-1011

UK Sales
sales@milehighlabs.com
+44 (0) 28 9099 5253

The information described above is offered solely for your consideration, investigation, and independent verification. It is up to you, the customer, to decide whether and how to use this information. Mile High Labs or any of its affiliates (the "Company") makes no representations or warranties about the suitability of any of the Company's products for your specific intended use or any use whatsoever. Furthermore, all express or implied warranties of non-infringement, merchantability, or fitness for a particular purpose are hereby and completely disclaimed. The Company expressly disclaims any responsibility whatsoever for any alleged liability or damage(s) arising out of customer's use of any of the Company's products or relating to any of the foregoing. The results of this report relate only to the material or product analyzed. All contract laboratories are accredited by a third-party accrediting body as a competent testing laboratory pursuant to ISO/IEC 17025 of the International Organization



MILE HIGH LABS

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 24 October 2022 Version: 7.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
 Trade name : Broad Spectrum CBD Distillate
 Chemical name : Cannabis sativa, distillate
 EC-No. : 289-644-3
 CAS-No. : 89958-21-4
 Product code : FX-019
 Synonyms : CBD distillate from extract of cannabis sativa
 Other means of identification : The substance is cannabis sativa, distillate CAS 89958-21-4, a mixture of different cannabinoids. The final product is a broad-spectrum distillate with the THC removed using a proprietary extraction process. The result is an ingredient with 80-90% CBD potency, as well as terpenes and other minor cannabinoids such as CBG and CBE.
 Note : This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product. Workers manufacturing this product should consult the SDSs of each hazardous ingredient for hazard information and handling recommendations.

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Food, cosmetic, personal care products

1.2.2. Uses advised against

Any use not specified.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Mile High Labs
697 N Denver Ave Suite 132
Loveland, CO 80537
T +1 (833) 223-1011
sales@milehighlabs.com

1.4. Emergency telephone number

Emergency number : +1 (833) 223-1011
08:30 - 16:30 MST

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification /Substances:

Reproductive toxicity, Category 2	H361fd
Specific target organ toxicity — Repeated exposure, Category 1	H373

Full text of H statements : see Section 16

Adverse physicochemical, human health and environmental effects

May causes damage to organs (liver, central nervous system). Suspected of damaging fertility or the unborn child.

Broad Spectrum CBD Distillate

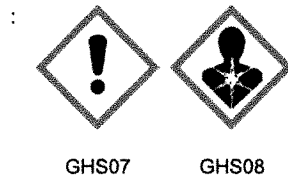
Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.2. Label elements

Labelling

Hazard pictograms



Signal word

: Warning

Hazard statements

: H336 - May cause drowsiness or dizziness.
 H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.
 H373 – May cause damage to organs (liver) through prolonged or repeated exposure.

Precautionary statements

: P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P260 - Do not breathe mist, spray.
 P264 - Wash hands thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P280 - Wear eye protection, protective gloves.
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P308+P313 - IF exposed or concerned: Get medical advice/attention.
 P312 - Call doctor if you feel unwell.
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No evidence that substance is PBT.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Multi-constituent
 Name : Broad Spectrum CBD Distillate
 CAS-No. : 89958-21-4
 EC-No. : 289-644-3

The substance is cannabis sativa, distillate CAS 89958-21-4, a mixture of different cannabinoids.

Name	Product Identifier	%
Cannabidiol (CBD)	(CAS-No.) 13956-29-1	80 – 90
Cannabigerol (CBG)	(CAS-No.) 25654-31-3	1 – 5
Cannabielsoin (CBE)	(CAS-No.) 52025-76-0	0.1 – 3
Cannabidivanol (CBDV)	(CAS-No.) 24274-48-4	0.1 – 2

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
First-aid measures after eye contact	: If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. If irritation occurs or persists, notify medical personnel and supervisor.
First-aid measures after ingestion	: Get medical advice/attention if you feel unwell. If swallowed, rinse mouth with water (only if the person is conscious).

4.2. Most important symptoms and effects, both acute and delayed

Suspected of damaging fertility or the unborn child. May cause damage to organs (liver, central nervous system) through prolonged or repeated exposure..

4.3. Indication of any immediate medical attention and special treatment needed

Medical conditions aggravated by exposure: none known or reported. Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No information identified.
Explosion hazard	: Product is not explosive.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Firefighting instructions	: In case of fire in the surroundings: use the appropriate extinguishing agent. Wear full protective clothing and an approved, positive pressure, self-contained breathing apparatus. Decontaminate all equipment after use.
---------------------------	--

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Avoid all unnecessary exposure. Do not get in eyes, on skin, or on clothing.
----------------------	--

6.1.2. For emergency responders

Protective equipment	: If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated.
Emergency procedures	: Avoid all unnecessary exposure. Do not get in eyes, on skin, or on clothing.

6.2. Environmental precautions

Do not empty into drains. Avoid release to the environment.

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Absorb liquid with sand or inert absorbent and remove to safe place. Sweep or shovel spills into appropriate container for disposal.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Sections 8 and 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes, and clothing. Wear protective equipment as determined by risk assessment. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Containers which are opened should be properly resealed and kept upright to prevent leakage.

Storage temperature : Recommended storage temperature-controlled room temperature 68-77°F (20-25°C).

Storage area : Protect from light. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Do not freeze.

Packaging materials : Food use approved.

7.3. Specific end use(s)

Dietary / food supplement / food product / cosmetic ingredient.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Name	Issuer	Value
Cannabidiol (CBD)	No data available	No data available
Cannabigerol (CBG)	No data available	No data available
Cannabielsoin (CBE)	No data available	No data available
Cannabidivanol (CBDV)	No data available	No data available

8.2. Exposure controls

Appropriate engineering controls Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Use local exhaust and/or enclosure at aerosol generating points. Use engineered local exhaust ventilation (LEV) and/or enclosure for procedures where aerosols can be released. All containers must be covered while being transferred.

Respiratory protection Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. At a minimum, a tight-fitting full-face respirator with HEPA filters is required when generating aerosols without containment (EU EN136). A powered air-purifying respirator (PAPR) with HEPA filters and head cover is required for spill cleanup (EU EN 146).

Hand protection Wear nitrile or other impervious gloves if skin contact is possible. (EU EN 374)
Minimum layer thickness: 0.11 mm
Breakthrough time: 480 min
When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.

Eye protection Wear safety glasses with side shields, chemical goggles, or full-face shield, if necessary (EU EN 166). Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.

Skin and body protection Wear disposable garments appropriate to the task, booties, and safety glasses with side shields. Protective garments (coveralls, disposable coveralls, lab coats) are not to be worn in common areas (e.g., cafeterias) or out-of-doors. Employees must be trained in proper gowning and degowning practices.

Other protective measures Wash hands in the event of contact with this product, especially before eating, drinking, or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors).

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Environmental exposure controls:

Avoid release to the environment and operate within closed systems wherever practicable. Air and liquid emissions should be directed to appropriate pollution control devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Highly viscous amber liquid
Colour	: Amber
Odour	: Skunky terpene odor
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 69 °C (156 °F)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage, and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

(See Section 7: Handling and Storage).

10.5. Incompatible materials

No additional information available.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	: May be absorbed by inhalation, skin contact and ingestion
Acute toxicity (oral)	: Not classified. No data available.
Acute toxicity (dermal)	: Not classified. No data available.
Acute toxicity (inhalation)	: Not classified. No data available.
Skin corrosion/irritation	: Not classified. No data available.
Serious eye damage/irritation	: Not classified. No data available.
Respiratory or skin sensitisation	: Not classified. No data available.
Germ cell mutagenicity	: Not classified.
	CBD <i>In vitro:</i> Bacterial reverse mutation assay (e.g. Ames test): negative mouse lymphoma cell mutation assay: negative chromosomal aberration in rat bone marrow: negative micronuclei and chromosomal aberrations in mammalian erythrocytes: positive sister chromatid exchanges in human lymphocytes: positive DNA damage and chromosomal aberrations in human cells: positive <i>In vivo:</i> Rat micronucleus assay: negative CBDV DNA damage and chromosomal aberrations in human cells: positive There is potential for cannabinoids to be genotoxic; however, the data are not sufficient for classification.
Carcinogenicity	: Not classified
	CBD Rat, dietary LOAEL:50 mg/kg/day Effect: no increase in incidence of tumors in study that was >60% CBD None of the components of the mixture present at levels greater than or equal to 0.1% are listed by NTP, IARC, ACGIH or OSHA as a carcinogen.
Reproductive toxicity	: Suspected of damaging fertility.
	CBD Rat fertility study (males and females), Oral, NOAEL:250 mg/kg/day Effects: none Mice (male), Oral, LOAEL:50 mg/kg/day Effects: abnormal sperm See also STOT-repeated exposure studies
Developmental toxicity	: Rat (embryofetal toxicity study), Oral
	Maternal NOAEL: 250 mg/kg/day Fetal, NOAEL:125 mg/kg/day Effects: Embryofetal mortality at the highest dose. Rat (peri/postnatal toxicity study), Oral Maternal NOAEL: 250 mg/kg/day Fetal, NOAEL:75 mg/kg/day Effects: decreased growth, delayed sexual maturation, decreased activity, and adverse effects on male reproductive organ development (small testes in adult offspring) and fertility; no maternal effects. Rabbit (embryofetal toxicity study), OralMaternal NOAEL: 80 mg/kg/day

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Fetal, NOAEL:80 mg/kg/day
Effects: Maternal toxicity, decreased fetal body weights and increased fetal structuralvariations

STOT-single exposure : Not classified. Conclusive but not sufficient for classification.
Mouse, oral LD50 > 2460 mg/kg

STOT-repeated exposure : Not classified
CBD
: May cause damage to organs (liver, central nervous system) through prolonged or repeated exposure.
Rats (90 days), Oral LOAEL: 300 mg/kg/day
Effects: none

Mice (10 days), NOAEL: 184.5 mg/kg/day
Effects: liver toxicity (microscopic changes, increase in liver enzymes and bilirubin), and at higher doses was overtly toxic by Day 3.

Monkeys (90 days), Oral LOAEL:30 mg/kg/day
Effects: Decreased testicular weight, increased liver, kidney and heart weights, sperm abnormalities at higher doses

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms

Cannabidiol is approved for the treatment of epilepsy. Cannabidiol does not exert its anticonvulsant effect through interaction with cannabinoid receptors. Cannabidiol may exert its pharmacological effect through the G protein-coupled receptor 55 (GPR55), transient receptor potential vanilloid 1 (TRPV-1) channels, and equilibrative nucleoside transporter 1 (ENT-1). They have analgesic, anticonvulsant, muscle relaxant, anti-anxiety, neuroprotective, anti-oxidant and anti-psychotic effects. They do not have psychotropic effects.

CBD has been tested in humans. Adverse effects reported with oral CBD include fatigue, decreased/increased appetite, weight gain/loss, diarrhea, increased transaminase levels and other central nervous system effects. Adverse effects may be more likely to happen when exposure occurs in combination with other drugs.

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Additional information : Based on available data, the classification criteria are not met. The environmental characteristics of this mixture have not been fully investigated. Releases to the environment should be avoided.

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

No additional information available.

12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

PBT: not yet assessed

vPvB: not yet assessed

12.6. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Used product should be disposed of according to local, state, and federal regulations. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g. appropriately permitted chemical waste incinerator. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, (e.g. appropriately permitted municipal or on-site wastewater treatment facility).

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not regulated

UN-No. (IMDG) : Not regulated

UN-No. (IATA) : Not regulated

UN-No. (ADN) : Not regulated

UN-No. (RID) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated

Proper Shipping Name (IMDG) : Not regulated

Proper Shipping Name (IATA) : Not regulated

Proper Shipping Name (ADN) : Not regulated

Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated

Packing group (IMDG) : Not regulated

Packing group (IATA) : Not regulated

Packing group (ADN) : Not regulated

Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Special transport precautions : Avoid release to the environment.

Overland transport

Not applicable

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Broad Spectrum CBD Distillate is not on the REACH Candidate List

Broad Spectrum CBD Distillate is not on the REACH Annex XIV List

Broad Spectrum CBD Distillate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Broad Spectrum CBD Distillate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Netherlands

SZW-lijst van kankerverwekkende stoffen : Broad Spectrum CBD Distillate is listed
 mutagene stoffen : Broad Spectrum CBD Distillate is listed
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product.
 Pregnant/breastfeeding women working with the product must not be in direct contact with the product.

US Federal regulations

Broad Spectrum CBD Distillate (89958-21-4)		
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:		
Cannabidiol (CBD)	CAS-No. 13956-29-1	80 – 90%
Cannabigerol (CBG)	CAS-No. 25654-31-3	1 – 5%
Cannabielsoin (CBE)	CAS-No. 52025-76-0	0.1 – 3%
Cannabidivarol (CBDV)	CAS-No. 24274-48-4	0.1 – 2%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Broad Spectrum CBD Distillate

Safety Data Sheet

according to Regulation (EU) 2015/830 and Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 16: Other information

Abbreviations and acronyms:

ACGIH - American Conference of Governmental Industrial Hygienists; ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; AIHA - American Industrial Hygiene Association; CAS# - Chemical Abstract Services Number; CLP - Classification, Labelling, and Packaging of Substances and Mixtures; DNEL - Derived No Effect Level; DOT - Department of Transportation; EINECS - European Inventory of New and Existing Chemical Substances; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; NIOSH - The National Institute for Occupational Safety and Health; NOEL - No Observed Effect Level; NOAEL - No Observed Adverse Effect Level; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PBT - Persistent, Bioaccumulative, and Toxic; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Data sources

1. Patra PB and Wadsworth RM (1991) Quantitative evaluation of spermatogenesis in mice following chronic exposure to cannabinoids. *Andrologia* 23:151-6. doi: 10.1111/j.1439-0272.1991.tb02520.x
2. Russo C, Ferk F, Misik M, Ropek N, Nersesyan A, Mejri D, Holzmann K, Lavorgna M, Isidori M and Knasmuller S (2019) Low doses of widely consumed cannabinoids (cannabidiol and cannabidivarin) cause DNA damage and chromosomal aberrations in human-derived cells. *Arch Toxicol* 93:179-188. doi: 10.1007/s00204-018-2322-9
3. GW Pharma Ltd (2019) Product monograph for PRPrSATIVEX® delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD) Solution, 27mg/mL / 25mg/mL, Buccal spray). Available [online]: <https://health-products.canada.ca/dpd-bdpp/index-eng.jsp>. Revised December 11, 2019.
4. Greenwich Biosciences Inc (2020) Epidiolex - cannabidiol solution [FDA] Food and Drug Administration Label information. Available at: <https://dailymed.nlm.nih.gov/dailymed/index.cfm>. Revised 26 August 2020.
5. PubChem (2020) Compound Summary. National Center for Biotechnology Information. Available at: <https://pubchem.ncbi.nlm.nih.gov>. Accessed 4 August 2020.
6. Bergamaschi MM, et al. (2011). Safety and side effects of cannabidiol, a Cannabis sativa constituent. *Curr Drug Saf* 6(4):237-49,
7. Carvalho RK, Santos ML, Souza MR, Rocha TL, Guimaraes FS, Anselmo-Franci JA and Mazaro-Costa R (2018) Chronic exposure to cannabidiol induces reproductive toxicity in male Swiss mice. *J Appl Toxicol* 38:1215-1223. doi:10.1002/jat.3631
8. Rosenkrantz H, Fleischman RW and Grant RJ (1981) Toxicity of short-term administration of cannabinoids to rhesus monkeys. *Toxicol Appl Pharmacol* 58:118-31. doi: 10.1016/0041-008x(81)90122-8
9. European Medicines Agency [EMA] (2020) Epidiolex cannabidiol Product information GW Pharma (International) B.V. EMEA/H/C/004675 - II/0008/G. Available at: <https://www.ema.europa.eu/en/medicines/human/EPAR/epidyolex> Last updated: 23/07/2020.

Full text of H- statements:	
Repr. 2	Reproductive toxicity, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety, and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Document Approvals
Approved Date: 10/24/2022

Approval Task Verdict: Approve	Melodie Nye, (M.Nye@milehighlabs.com) Environmental Health & Safety Approval 24-Oct-2022 17:28:28 GMT+0000
-----------------------------------	---

Approved