



500 South Arthur Ave Unit 300, Louisville, CO, 80027
720-726-5132
www.bluebirdbotanicals.com

SPECIFICATIONS: Hempseed Oil

Hemp seed oil is a raw ingredient used in edible oil products. It consists of organic cold pressed hemp seeds.

| | | | |
|-------------------------------|---|--------------------|--------------------------|
| Application and Use | Ingredient | Appearance | Translucent green liquid |
| Composition | 100% Hemp seed oil by weight | Odor | Mild and nutty |
| Organic Certification | Certified Organic | Consistency | Liquid |
| Storage and Shelf Life | 12 months from the date of production in original packaging. Store cool dark and dry. | Density | 0.915 - 0.925 |
| Ingredients used in | Classic, Companion, and Signature Blends | Solubility | Soluble at oils |

| | | | |
|--------------------------------|------------------------|------------------------------|-------------------|
| Ingredient | Hemp seed oil | Item Code | HSO |
| Botanical Name | <i>Cannabis sativa</i> | Organic Certification | Certified Organic |
| Plant parts used in oil | Seed | Country of Origin | Canada |

| | | | |
|--|-------------|---|---------------|
| Nutritional Method: AOAC 954.02, AOCS Cd 8b-90, AOCS Ca 5a-40, Veratox Elisa Gliadin R5 | | Heavy Metals Method: ICP-MS | |
| Gluten | <20 ppm | Arsenic | < 10 ppb |
| Peroxide Value | 0-10 meq/kg | Cadmium | < 10 ppb |
| Fat | 96-100% | Mercury | < 10 ppb |
| Fatty Acid Profile (Area %) Method -Ce 2b-11 (2011), Ce 1i-07, Ce 2-66 (2009) | | Lead | < 10 ppb |
| Palmitic Acid | >4.5% | Mycotoxins - Method: UHPLC-MS/MS | |
| Stearic Acid | >2% | Total Aflatoxin | < 5 ppb |
| Oleic Acid | >8.5% | Total Ochratoxin | < 5 ppb |
| Linoleic Acid | >44% | Microbiological Contamination Method: qPCR | |
| Alpha Linolenic Acid | >14% | Total Aerobic Bacterial Count | < 1,000 CFU/g |
| Solvents Method: GC/MS | | Total Coliform Bacterial Count | < 100 CFU/g |
| Propane, Propane, Butanes, Pentane, Hexane, Benzene, Heptane, Toluene, Xylenes Ethanol, Acetone, Isopropyl Alcohol | 0 ppb | Total Bile Tolerant Gram Negative Count | < 1,000 CFU/g |
| | | Total Yeast and Mold | < 1,000 CFU/g |

| | | |
|---|--|----------|
| Pesticides Method: GC/MS and/or LC/MS | | |
| Abamectin 71751-41-2, Acequinocyl 57960-19-7, Acequinocyl 57960-19-7, Bifenazate 149877-41-8, Bifenthrin 82657-04-03, Chloromequat chloride 999-81-5, Cyfluthrin 68359-37-5, Cyfluthrin 68359-37-5, Daminozide 1596-84-5, Etoxazole 153233-91-1, Fenoxycarb 72490-01-8, Paclobutrazol 76738-62-0, Pyrethrin 8003-34-7, Spinosad 168316-95-8, Spiromesifen 283594-90-1, Myclobutanil 88671-89-0, Imazalil 35554-44-0, Imidacloprid 138261-41-3, Spirotetramat 203313-25-1, Trifloxystrobin 141517-21-7 | | < 10 ppb |

SPECIFICATIONS: Black Cumin Seed Oil

Black cumin seed oil consists of organic cold pressed black cumin seeds. It a raw ingredient used in the edible oil products at Bluebird Botanicals.

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|-------------------------------|---|--------------------|---------------------------------|
| Application and Use | Ingredient | Appearance | Light brown, translucent liquid |
| Composition | 100% Black Cumin seed oil by weight | Odor | Spicy and pungent odor |
| Organic Certification | Certified Organic | Consistency | Liquid oil |
| Storage and Shelf Life | 36 months from date of production in original packaging. Store cool dark and dry. | Density | 0.918 - 0.928 |
| Ingredients used in | Signature Blends | Solubility | Soluble in oils |

| | | | |
|--------------------------------|-----------------------|------------------------------|-------------------|
| Ingredient | Black Cumin seed oil | Item Code | BC |
| Botanical Name | <i>Nigella sativa</i> | Organic Certification | Certified Organic |
| Plant parts used in oil | Seed | Country of Origin | Israel |



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| Nutritional - Method: AOAC 954.02, AOCS Cd 8b-90, AOCS Ca 5a-40, Veratox Elisa Gliadin R5 | | Heavy Metals Method: ICP-MS | |
|--|------------|---|---------------|
| Gluten | <20 ppm | Arsenic | < 10 ppb |
| Peroxide Value | <50 meq/kg | Cadmium | < 10 ppb |
| Fat | 96-100% | Mercury | < 10 ppb |
| Fatty Acid Profile (Area %) Method: -Ce 2b-11 (2011), Ce 1i-07, Ce 2-66 (2009) | | Lead | < 10 ppb |
| Palmitic Acid | 10-14% | Mycotoxins - Method: UHPLC-MS/MS | |
| Palmitioleic Acid | 0-0.5% | Total Aflatoxin | < 5 ppb |
| Stearic Acid | 2-5% | Total Ochratoxin | < 5 ppb |
| Oleic Acid | 17-28% | Microbiological Contamination Method: qPCR | |
| Alpha Linolenic Acid | >14% | Total Aerobic Bacterial Count | < 1,000 CFU/g |
| Solvents Method: GC/MS | | Total Coliform Bacterial Count | < 100 CFU/g |
| Propane, Propane, Butanes, Pentane, Hexane, Benzene, Heptane, Toluene, Xylenes Ethanol, Acetone, Isopropyl Alcohol | 0 ppb | Total Bile Tolerant Gram Negative Count | < 1,000 CFU/g |
| | | Total Yeast and Mold | < 1,000 CFU/g |

| Pesticides Method: GC/MS and/or LC/MS | |
|---|----------|
| Abamectin 71751-41-2, Acequinol 57960-19-7, Acequinocyl 57960-19-7, Bifenazate 149877-41-8, Bifenthrin 82657-04-03, Chlormequat chloride 999-81-5, Cyfluthrin 68359-37-5, Cyfluthrin 68359-37-5, Daminozide 1596-84-5, Etoxazole 153233-91-1, Fenoxycarb 72490-01-8, Pacllobutrazol 76738-62-0, Pyrethrin 8003-34-7, Spinosad 168316-95-8, Spiromesifen 283594-90-1, Myclobutanil 88671-89-0, Imazalil 35554-44-0, Imidacloprid 138261-41-3, Spirotetramat 203313-25-1, Trifloxystrobin 141517-21-7 | < 20 ppb |

Specification Sheet: Frankincense Essential Oil

Frankincense CO2 is a raw ingredient used in oil products at Bluebird Botanicals.

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|-------------------------------|--|--------------------|-----------------------------------|
| Application and Use | Ingredient | Appearance | Transparent liquid |
| Composition | 100% Frankincense CO2 extract by weight | Odor | Citrusy, pungent, spicy |
| Organic Certification | Not certified | Consistency | Liquid |
| Storage and Shelf Life | 4 year from the date of production in original packaging. Store cool dark and dry. | Density | 0.87 - 0.93 |
| Products used in | S, SX | Solubility | Soluble in alcohol and fixed oils |

| | | | |
|--------------------------------|--------------------------------|------------------------------|---------------|
| Ingredient | Frankincense CO2 Essential Oil | Item Code | FRANK |
| Botanical Name | <i>Boswellia carterii</i> | Organic Certification | Not certified |
| Plant parts used in oil | Resin | Country of Origin | Somalia |

| Volatile Compounds Method: GC-MS | | Heavy Metals Method: ICP-MS | |
|---------------------------------------|---------|---|---------------|
| Total Essential Oil Content | 70-85% | Arsenic | < 200 ppb |
| Alpha-Thujene | <10% | Cadmium | < 100 ppb |
| Alpha-Pinene | 25-50% | Mercury | < 100 ppb |
| Farnesol | <0.1% | Lead | < 200 ppb |
| Mycotoxins Method: UHPLC-MS/MS | | Microbiological Contamination Method: qPCR | |
| Total Aflatoxin | < 5 ppb | Total Aerobic Bacterial Count | < 1,000 CFU/g |
| Total Ochratoxin | < 5 ppb | Total Coliform Bacterial Count | < 100 CFU/g |
| | | Total Bile Tolerant Gram Negative Count | < 1,000 CFU/g |
| | | Total Yeast and Mold | < 1,000 CFU/g |



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| Solvents Method: GC/MSD | |
|--|-------|
| Propane, Butane, Pentane, Ethanol, Acetone, Isopropyl Alcohol, Hexane, Benzene, Heptanes, Toluene, | 0 ppm |

| Pesticides Method: GC/MS and/or LC/MS | |
|--|----------|
| Abamectin 71751-41-2, Acequinocyl 57960-19-7, Acequinocyl 57960-19-7, Bifenazate 149877-41-8, Bifenthrin 82657-04-03, Chlormequat chloride 999-81-5, Cyfluthrin 68359-37-5, Cyfluthrin 68359-37-5, Daminozide 1596-84-5, Etoxazole 153233-91-1, Fenoxycarb 72490-01-8, Paclobutrazol 76738-62-0, Pyrethrin 8003-34-7, Spinosad 168316-95-8, Spiromesifen 283594-90-1, Myclobutanil 88671-89-0, Imazalil 35554-44-0, Imidacloprid 138261-41-3, Spirotetramat 203313-25-1, Trifloxystrobin 141517-21-7 | < 20 ppb |

Specification Sheet: Hemp Extract Signature Concentrated

Hemp Extract Signature Concentrated is an oil meant for oral ingestion. It consists of hemp extract blended with cold pressed organic hemp seed oil, cold pressed organic black cumin seed oil, and extracted frankincense essential oil.

| Application and Use | Dietary Supplement | Appearance | Greenish-brown, oily liquid |
|-------------------------------|---|--------------------|--|
| Composition | 9% - 13% hemp extract by weight 75% - 85% hemp seed oil by weight 5% - 10% black cumin seed oil by weight 1.2% - 1.6% frankincense oil by weight | Odor | Grassy, earthy odor, with spicy, woody, and resinous notes |
| Organic status | Extract: not certified Hemp seed oil: certified organic Black cumin seed oil: certified organic | Consistency | Viscous below 32 degrees Fahrenheit |
| Organic Certification | Not certified organic | Density | 0.92 mg/mL - 0.93 mg/mL |
| Storage and Shelf Life | 500 days from the date of production in original packaging. Store cool dark and dry. | Solubility | Soluble in oils and ethanol |
| Packaging | 10ml, 30ml, 60ml amber glass essence bottle | | |

| | | | |
|--------------------------------|------------------------|------------------------------|---------|
| Ingredient | Hemp seed oil | Item Code | HSO |
| Botanical Name | <i>Cannabis sativa</i> | Organic Certification | Organic |
| Plant parts used in oil | Seed | Country of Origin | Canada |

| | | | |
|--------------------------------|---------------------------------|------------------------------|---------------|
| Ingredient | Hemp winterized ethanol extract | Item Code | DEBFH |
| Botanical Name | <i>Cannabis sativa</i> | Organic Certification | Not certified |
| Plant parts used in oil | Seed, stem, flower | Country of Origin | USA |

| | | | |
|--------------------------------|------------------------|------------------------------|---------------|
| Ingredient | Hemp CO2 extract | Item Code | DCFL |
| Botanical Name | <i>Cannabis sativa</i> | Organic Certification | Not certified |
| Plant parts used in oil | Seed, Stem, flower | Country of Origin | USA |

| | | | |
|--------------------------------|------------------------|------------------------------|---------------|
| Ingredient | CBD Isolate | Item Code | ISO |
| Botanical Name | <i>Cannabis sativa</i> | Organic Certification | Not certified |
| Plant parts used in oil | Seed, Stem, Flower | Country of Origin | USA |

| | | | |
|--------------------------------|-----------------------|------------------------------|---------------|
| Ingredient | Black cumin seed oil | Item Code | BC |
| Botanical Name | <i>Nigella sativa</i> | Organic Certification | Organic |
| Plant parts used in oil | Seed | Country of Origin | Israel, India |

| | | | |
|--------------------------------|------------------------------|------------------------------|---------------|
| Ingredient | Frankincense CO2 oil | Item Code | FRANK |
| Botanical Name | <i>Frankincense carterii</i> | Organic Certification | Not certified |
| Plant parts used in oil | Resin | Country of Origin | Somalia |

Our Low THC Hemp Extract Product is manufactured by Bluebird Botanicals according to cGMP practices.



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Batch: SX 0394. Batch Size: 77.352 Liters (71.16 Kg). Total Quantity Produced (packaging plan based on estimates): 10 ml bottle: 1986.30 ml bottle: 595. 60 ml bottle: 623. Yield: 97.07%. Supplier Lot Codes: Primary Ingredient: MY-300-001, 10.30.18-ASH-1C, 12.20.18-SCH-1WCD, R0122718BB. Carrier: 17-WINEPIO-01, 3945-SNN-2018. Essential: 345-22-LOT16

| Potency Method: HPLC | | Mycotoxins Method: UHPLC-MS/MS | |
|-----------------------------|--|--|---------------|
| Total Cannabinoids | (50 - 60 mg/ml (1500 - 1800 mg/ounce)) | Total Aflatoxin | < 5 ppb |
| Tetrahydrocannabinol (THC) | < 0.3% | Total Ochratoxin | < 5 ppb |
| Heavy Metals Method: ICP_MS | | Microbiological Contamination Method: qPCR | |
| Arsenic | < 10 ppb | Total Aerobic Bacterial Count | < 1,000 CFU/g |
| Cadmium | < 10 ppb | Total Coliform Bacterial Count | < 100 CFU/g |
| Mercury | < 10 ppb | Total Bile Tolerant Gram Negative Count | < 1,000 CFU/g |
| Lead | <50 ppb | Total Yeast and Mold | < 1,000 CFU/g |

| Solvents Method: GC/MS | |
|------------------------|-----------------|
| Propane | < LOQ (100 ppm) |
| Butanes | < LOQ (100 ppm) |
| Pentane | < LOQ (100 ppm) |
| Ethanol | < LOQ (100 ppm) |
| Acetone | < LOQ (100 ppm) |
| Isopropyl Alcohol | < LOQ (100 ppm) |
| Hexane | < 6 ppm |
| Benzene | < 0.2 ppm |
| Heptane | < LOQ (100 ppm) |
| Toluene | < 18 ppm |
| Xylenes | < 43 ppm |

| Pesticides Method: GC/MS and/or LC/MS | |
|--|----------|
| Abamectin 71751-41-2, Acequinocyl 57960-19-7, Acequinocyl 57960-19-7, Bifenazate 149877-41-8, Bifenthrin 82657-04-03, Chlormequat chloride 999-81-5, Cyfluthrin 68359-37-5, Cyfluthrin 68359-37-5, Daminozide 1596-84-5, Etoxazole 153233-91-1, Fenoxycarb 72490-01-8, Paclobutrazol 76738-62-0, Pyrethrin 8003-34-7, Spinosad 168316-95-8, Spiromesifen 283594-90-1, Myclobutanil 88671-89-0, Imazalil 35554-44-0, Imidacloprid 138261-41-3, Spirotetramat 203313-25-1, Trifloxystrobin 141517-21-7 | < 50 ppb |

DISCLOSURE OF PRODUCT COMPONENTS: OUR LOW THC HEMP EXTRACT PRODUCTS ARE BLENDED USING A COMBINATION OF FULL SPECTRUM CANNABINOID EXTRACTS, ORGANIC CARRIER OILS AND ESSENTIAL OILS, THE CONTENTS, IDENTITY AND PURITY OF WHICH HAVE BEEN TESTED USING A VARIETY OF METHODS, INCLUDING AOAC-APPROVED METHODS OF ANALYSIS. AOAC INTERNATIONAL IS AN INDEPENDENT, INTERNATIONALLY RECOGNIZED 501(C)(3) NOT-FOR-PROFIT ASSOCIATION WHOSE ANALYTICAL STANDARDS APPLY TO A BROAD RANGE OF INDUSTRIES INCLUDING FOODS, BEVERAGES AND DIETARY SUPPLEMENTS. INGREDIENT AND SERVICE PROVIDERS HAVE BEEN QUALIFIED BY AN INTERNAL QUALITY MANAGEMENT TEAM ACCORDING TO A CGMP-COMPLIANT PROTOCOL. THE QUALIFICATION OF A SUPPLIER ENTAILS INGREDIENT TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING ASSAYS: FATTY ACIDS (OFFICIAL METHODS OF ANALYSIS OF AOAC INTERNATIONAL, 18TH ED., METHODS 922.06 AND 954.02), PEROXIDE VALUE (AOAC INTERNATIONAL, OFFICIAL METHODS 965.33 AND 983.23), YEAST AND MOLD ANALYSIS (AOAC INTERNATIONAL, OFFICIAL METHOD 997.02), AEROBIC PLATE COUNT (AOAC INTERNATIONAL, OFFICIAL METHOD 990.12), ELEMENTS (AOAC INTERNATIONAL, OFFICIAL METHODS 2011.19 AND 993.14), REGULATED MYCOTOXINS (CITATION: ANALYTICAL AND BIOANALYTICAL CHEMISTRY, 402:2675-2686), E. COLI AND COLIFORMS (AOAC INTERNATIONAL, OFFICIAL METHOD 991.14), MULTI-RESIDUE ANALYSIS (AOAC INTERNATIONAL, OFFICIAL METHOD 2007.01), GLUTEN (AOAC INTERNATIONAL, OFFICIAL METHOD 2012.01), RESIDUAL SOLVENTS (UNITED STATES PHARMACOPEIA METHOD 467). THE AFOREMENTIONED METHODS OF ANALYSIS UTILIZE BUT ARE NOT NECESSARILY LIMITED TO QUANTIFICATION BY HPLC, UPLC/MS, GC/MS, IAC, SFC, ICP-MS. INGREDIENT CONSISTENCY IS ADDITIONALLY EVALUATED THROUGH REGULAR ORGANOLEPTIC SCREENING TO CONTROL TASTE, ODOR, COLOR AND CONSISTENCY. THE FOLLOWING SUPPLIERS/ MANUFACTURERS/SERVICE PROVIDERS HAVE BEEN QUALIFIED BY INTERNAL QUALITY MANAGEMENT: HEMP PRODUCTION SERVICES, SUPPLIER OF ORGANIC HEMP SEED OIL, JEDWARDS INTERNATIONAL, SUPPLIER OF ORGANIC HEMP SEED OIL, ORGANIC OLIVE OIL, ORGANIC BLACK CUMIN SEED OIL, EDEN BOTANICALS, SUPPLIER OF SUPERCRITICAL CO2 EXTRACTED FRANKINCENSE (BOSWELLIA CARTERII) AND CANNABIS ESSENTIAL OIL, EBL HEALTH, MANUFACTURERS/SUPPLIERS OF CO2 HEMP EXTRACTS, PHYTO BOTANICS, MANUFACTURER OF ETHANOL HEMP EXTRACT, HAMMER, MANUFACTURER/CO-PACKER OF GEL CAPSULES. PROPRIETARY LOW THC HEMP EXTRACT PRODUCTS ARE MANUFACTURED BY BLUEBIRD BOTANICALS ACCORDING TO CGMP PRACTICES. ALL PRODUCTS ARE TESTED FOR MYCOTOXINS, PESTICIDES, ELEMENTS, RESIDUAL SOLVENTS, TERPENE PROFILES AND CANNABINOID POTENCY TO CONTROL ADHERENCE TO PRODUCT SPECIFICATIONS AND GUARANTEE CONFORMITY TO THE STRICT DEFINITION OF INDUSTRIAL HEMP (<0.3% DELTA9-THC, INCLUDING PRECURSORS). THIRD PARTY LABORATORY ANALYSIS IS CONDUCTED BY BOTANACOR SERVICES, DELTA VERDE LABORATORY, PROVERDE LABORATORIES AND COVANCE INC. ISO ACCREDITED (ISO 17025) ASSAYS ARE PROVIDED BY PROVERDE LABORATORIES AND COVANCE INC. SEE PRODUCT SPECIFICATION SHEET ABOVE FOR PRODUCT/INGREDIENT BATCH INFORMATION AND PROJECTED PACKAGING PLAN. ALL SUPPLIERS OF PACKAGING SUPPLIES HAVE BEEN QUALIFIED ACCORDING TO CGMP STANDARDS.