Version No. 122.002_08_S, Date: 04.05.2021

General Specification

Black Cumin CO2-to extract (organic)

DE-ÖKO-013, Type No. 122.002

683687-DE-8102

Raw material: *Nigella sativa* - Seed, dried, from organic farming

Production: By supercritical fluid extraction with natural carbon dioxide no solvent residues, no inorganic salts, no heavy metals, no reproducible microorganisms [1]. For product enrichment the fatty oil is not extracted to full extend.

D/E - ratio: 5,0 - 6,7 kg black cumin seeds to 1 kg product.

Organoleptic description: Yellow to brown, at room temperature clear liquid with typical smell and taste.

Composition: 100 % Black Cumin CO2-to extract (organic)

Ingredients: Fatty oil with high content of polyunsaturated fatty acids, including 45 - 65% linoleic acid (C18:2), as well as > 1% of the rare Eicosadienoic acid (C20:2). The oil contains > 5,0 % essential oil, consisting mainly of thymoquinone, cymene, thujene, carvacrol, thymohydroquinone etc. The content of thymoquinone in the extract is > 3,0 % (quantified by HPLC).

Declaration:

In food:
flavouring preparation or black cumin extract

In food supplements:
black cumin extract

In cosmetics:
INCI-Name: Nigella Sativa Seed Extract, CAS-No. 90064-32-7 , EINECS-No. 290-094-1

Application:

Traditional use:
In the ancient Egyptian, as well as in the Persian-Arabic and Greek-Roman medicine, black cumin was already a permanent element. Black cumin seeds have antibacterial, anti-inflammatory and anti-allergic effects [2]. In traditional folk medicine, black cumin seed is used to treat a number of intestinal and respiratory diseases. The oil of the seeds is also considered a local anesthetic [3]. Linoleic acid, an essential fatty acid found in high concentrations in black cumin seed extract, can significantly reduce the blood cholesterol level and thus contribute to reducing the risk of cardiovascular disease [4].

In food:
Black cumin is used especially in Indian cuisine as a spice. The extract goes well with oriental salads and other savory dishes, but it can also be used in baked goods and cheese products.

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In food supplements:
The black cumin extract is suitable for use in food supplements due to its high linoleic acid content, among other things. Linoleic acid contributes to maintaining a normal cholesterol level in the blood.

In cosmetics:
The extract is also suitable for cosmetics due to its high content of linoleic acid. Linoleic acid belongs to the essential unsaturated fatty acids and, as an essential component of ceramides, is involved in maintaining a natural barrier that protects the skin from dehydration [5]. Therefore, the extract is particularly suitable for use in moisturizing creams, massage oils and other skin care products, especially in products against dry and irritated skin.

Handling: Warm up 40°C (104°F) and mix before use!

Stability: Unopened containers at least 5 years under exclusion of light and following conditions: Store cool ! Recommendation: Storage under inert gas

Transport: No dangerous good in the sense of the transport regulations.

REACH - Status: The substance is exempted from registration under annex V entry 9 of the reach regulation (EC) No 1907/2006.

Certification:
- ORGANIC certified by QC&I (Quality, Certification and Inspection)
- HALAL certified by HCS (Halal Certification Services)
- KOSHER certified by KLBD (Beth Din Kashrut Division)
- COSMOS certified by IONC (International Organic and Natural Cosmetics Corporation), 100 % certified ingredients (COSMOS-Standard)

Conformity: The product complies with the requirements of Regulation (EC) No. 1334/2008 on flavourings and with the requirements of Regulation (EC) No.1223/2009 on cosmetic products in the currently valid version.

Literature:

[1] P. Manninen, E. Häivälä, S. Sarimo, H. Kallio, Distribution of microbes in supercritical CO2 extraction of sea buckthorn (Hippophae rhamnoides) oils, Zeitschrift für Lebensmitteluntersuchung und -Forschung / Springerverlag (1997) 204: 202-205

[2] Prof. Dr. Sigrun Chrubasik-Hausmann, Schwarzkümmel (Nigella sativum), Institut für Rechtsmedizin der Universität, 2018

[3] A. K. Datta, A. Saha, A. Bhattacharya, A. Mandal, R. Paul and S. Sengupta, Black Cumin (Nigella Sativa L.)- A Review, Journal of Plant Development Sciences Vol.4 (1): 1-43. 2012

[4] European Food Safety Authority (EFSA), Scientific Opinion on the substantiation of health claims related to linoleic acid and maintenance of normal blood cholesterol concentrations (ID 489) pursuant to Article 13(1) of Regulation (EC) No 1924/2006, EFSA Journal 2009; 7(9):1276

[5] Jay Whelan, Kevin Fritsche, Linoleic Acid, Adv Nutr. 2013 May; 4(3): 311–312.