

Version No. 170. 001_09_S, Date: 13. 12. 2022

General Specification

Pomegranate Seed CO₂-to extract (organic)

DE-ÖKO-013, Type No. 170.001

Raw material: *Punica granatum* - Seed, dried, from organic farming



Production: By supercritical fluid extraction with natural carbon dioxide, no solvent residues, no inorganic heavy metals, no reproducible microorganisms [1]. The extract is stabilized with rosemary Antioxidant Extract (organic).

D/E - ratio: 6,0 - 10,0 kg pomegranate seeds to 1 kg product.

Organoleptic description: Yellow oil, with viscous consistence at room temperature.

Composition: Pomegranate Seed CO₂-to extract (organic)
0,1 % antioxidant extracts of rosemary (organic)

Ingredients: Fatty oil with more than 60 % punicalic acid (C18:3 w5), a conjugated linolenic acid (CLnA). Furthermore the extract contains tocopherols, sterols and a small amount of squalene.

Declaration: In cosmetics:
INCI-Name: Punica Granatum Seed Extract, CAS-No. 84961-57-9, EINECS-No. 284-646-0 and Rosmarinus Officinalis Leaf Extract, CAS-No. 84604-14-8, EINECS-No. 283-291-9 (INCI Key G: less than or equal to 0,1 %)

Application: Traditional use:
In Ayurvedic medicine pomegranate seeds are used to treat fever or polydipsia (pathological thirst) [2]. The extract is also antioxidant and anti-inflammatory [3].

In cosmetics:
Due to its antioxidant and anti-inflammatory properties, the extract is used in skin care products and has a soothing effect on irritated, dry and sensitive skin. The extract also stimulates the production of keratinocytes. Keratinocytes are part of the epidermis, the uppermost skin layer and form keratin, which protects the skin and gives it stability [4]. Therefore the pomegranate seed extract is suitable for all skin care products, especially for skin creams, massage oils or hand creams.

Stability: Unopened containers at least 2 years under exclusion of light and following conditions:
Store in a cool, dry place!

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. Possible traces of prohibited substances are unintentional and result from impurities as they may occur in plants and their processing and are technically unavoidable in good manufacturing practice. However, the presence is in compliance with Art. 3 Regulation (EC) No. 1223/2009.

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 / Springer-Verlag (1997) 204: 202-205
- [2] Gayle Engels, Josef Brinckmann, Pomegranate, HerbalGram. 2013; American Botanical Council, Issue: 100 Page: 1-7.
- [3] B. Matthäus, M. Özcan, Pomegranate plant (*Punica granatum* L.) composition, antioxidant activity, therapeutic effect, antimicrobial activity- A review, Z Arznei-Gewürzpfla, 21 (4): 160- 167, Erling Verlag GmbH & Co. KG, 2016
- [4] Hamid Reza Rahimia, Mohammad Arastoob and Seyed Nasser Ostada*, A Comprehensive Review of *Punica granatum* (Pomegranate) Properties in Toxicological, Pharmacological, Cellular and Molecular Biology Researches, Iranian Journal of Pharmaceutical Research (2012), 11 (2): 385-400
- [5] Muhammad Nadeem Aslam, Pomegranate as a cosmeceutical source: Pomegranate fractions promote proliferation and procollagen synthesis and inhibit matrix metalloproteinase-1 production in human skin cells, Journal of ethnopharmacology, Volume 103, Issue 3, 311 - 318

Disclaimer:

This specification has been prepared to the best of our knowledge for customer information, but under exemption of liability, particularly regarding infringement of or prejudice to third party rights by the use of the product. Statements on application summarise literature evidence and have informative character. Statements have not been evaluated by competent authorities and do not refer to finished products. The marketer of a finished product containing a FLA as an ingredient is responsible for ensuring that the product claims are lawful and that the applicable laws and regulations of the country in which the product is sold are complied with. This document provides an overview of the product, further product-relevant documents (e.g. IFRA list, allergen list) are available on request.

