



# EXTRACTS & INGREDIENTS LTD.

One Gary Road, Union, New Jersey 07083

Phone 908-688-9009

Fax 908-688-9005

Visit our website: [www.morretec.com](http://www.morretec.com)

## POMEGRANATE... THE FABLED FRUIT™



Pomegranates have been used extensively in various cultures around the world as a traditional medicine for centuries. Now, scientists have begun to take a closer look at the fruit and its derivatives to study their nutritive effects on the body.

Medical researchers in Israel and elsewhere are praising the exceptional health benefits provided by the pure juice, dry extracts and seed oil from the fruit of the Pomegranate tree. Unique in the botanical world, Pomegranate fruit contains a wide range of Polyphenolic compounds including *Ellagic Acid, Flavonoids, Anthocyanidins, Tannins*, as well as Vitamin C. In addition to the health benefits listed below, various components of Pomegranate have been found to be bactericidal and antiviral.

### [The Uniqueness of Pomegranate Seed Oil](#)

Cold-Pressed Pomegranate Seed Oil is a unique natural product, with no equal among all other plant oils. It is one of only about six plant sources known that contains *conjugated fatty acids*. Conjugated fatty acids are fatty acids with alternating double bonds. No other plant oil commonly known or readily obtainable contains such compounds. Conjugated fatty acids are important because they inhibit eicosanoid metabolism at several points in the synthesis of prostaglandins from arachidonic acid. This makes them significant *natural anti-inflammatory* agents.

There is only one other source of conjugated fatty acids presently available in the nutraceutical and cosmeceutical marketplace, conjugated linoleic acid (CLA). The complex was originally discovered about twenty years ago by scientists studying the cancer-causing chemicals in burned meat. In the midst of these compounds, they found *CLA*, one of the strongest cancer preventive chemicals in Nature. Hundreds of scientific papers have now been published on CLA, including clinical trials. CLA prevents cancer, prevents or reverses atherosclerosis and fights obesity. It is also used in the cosmetic industry as an anti-aging cosmeceutical ingredient.

Chemically, CLA is an 18-carbon fatty acid with two alternating double bond, in between which is a single bond. Pomegranate seed oil consists of a complex of fatty acids; about 80% of which are 18 carbon fatty acids with three, not two, alternating double bonds in between which are single bonds. These fatty acids with three alternating double bonds are called *trienoic*, while the fatty acids comprising CLA possess two double bonds and are called *dienoic*. Research has proven that the *trienoic* fatty acids, such as occur in pomegranate seed oil, possess a more potent physiological activity than the *dienoic* fatty acids that comprise CLA. The specific *trienoic fatty acid* in Pomegranate Seed Oil is referred to as *Punicic Acid*.

In addition to trienoic acids, Pomegranate Seed Oil contains other significant bioactive compounds. For example, Pomegranate Seed Oil is the richest known plant source of a steroidal estrogen, estrone. Studies have shown Pomegranate Seed Oil to contain over 3 mg/g of 17-alpha-estradiol, the mildest and safest steroidal estrogen and an exceptionally potent antioxidant and brain-preserving compound. To the best of our knowledge, 17-alpha-estradiol occurs in no plant source other than Pomegranate Seed Oil. Other important compounds found in Pomegranate Seed Oils include gamma-tocopherol, a rare and potent form of Vitamin E and the phytosterols: beta-sitosterol, stigmasterol and campesterol.

Extracts & Ingredients Ltd.'s extra-virgin, organic, Cold-Pressed Pomegranate Seed Oil is a blend of premium Pomegranate Seed Oils from selected pomegranate cultivars. Careful Cold-Pressing assures retention of the highest levels of *phytoactive* compounds. Blending oils from different sources ensures an optimum balance of rare fatty acids and aids in guaranteeing a pharmaceutical level of consistency from batch to batch. All seeds are organically grown, and subjected to state-of-the-art testing for pesticide residues.

## [Pomegranate in Health Care](#)

Pomegranate extract is primarily composed of alkaloids and polyphenols. The active constituent that appears to be responsible for its multiple health benefits is Ellagic Acid. Ellagic Acid is a naturally occurring phenolic compound found in several fruits and nuts. Like the polyphenolic components in green tea and red wine, Ellagic Acid imparts important antioxidant benefits to the use, including immune system support and a reduction in oxidation of LDL or “bad” cholesterol. *One study found that pomegranates are far higher in antioxidants than cranberries, blueberries or green tea.* Scientists believe it may inhibit atherosclerosis, cut the risk of heart disease and help to modulate high blood pressure. Pomegranate extract also has demonstrated anticarcinogenic properties that appear to suppress skin, breast, colon and other cancers. Credible medical studies have shown that daily consumption of Pomegranate juice, concentrate or extracts may provide the following health benefits:

### **Free Radical Scavenging**

The highest concentration (equal to green tea) of natural Ellagic Acid and other Polyphenols neutralizes damage causing Free Radicals.

### **Plaque Reduction**

Studies in animals show a marked reduction of plaque buildup in arteries, by 44%.

### **Cholesterol Reduction**

Ellagic acid and the other components have been shown to lower LDL levels in blood serum; thereby potentially offering a reduction of blood pressure in humans.

### **A Tool Against Breast Cancer**

A combination of juice extract and cold pressed oil has been shown to “selectively (destroy) estrogen-dependent cancer cells”.

Examples of products based on these Pomegranate ingredients include:

- Health capsules (can be sold as Pomegranate or Ellagic Acid extracts)
- Oil capsules for hormone replacement therapy
- Elixir for general health
- Spray dried powders (in capsules for hormone replacement therapy and cardiovascular protection)

## [Pomegranate In Skin and Personal Care](#)

Pomegranate Extracts and Seed Oil from Extracts & Ingredients, Ltd. contain high levels of **Ellagic Acid** (peel, juice and seed extract) and **Punicic Acid** (seed oil). These constituents, along with other polyphenols, make Pomegranate derivatives useful and effective *anti-inflammatory* and *anti-aging* agents in topical products.

Pomegranate Seed Oil has excellent moisturizing and nourishing properties. It is excellent for mature and aging skin, dry and cracked skin, irritated and sunburnt skin. This oil is used to treat acne, eczema, psoriasis, rosacea and assists in many special facial and body treatments.

Pomegranate Seed Oil :

- Boosts restoration and repair of the skin
- Evens skin tone
- Scavenges free radicals
- Helps with collagen production
- Acts as a natural SPF booster
- Helps reverse the damage of sun exposure

Unpublished studies performed by the Dermatological Department of the University of Michigan showed that Pomegranate Extract and Seed Oil combinations are highly effective in reducing and preventing fine wrinkles and in firming the epidermis. Multiple physiological studies (see references) point to the extraordinary benefits that Pomegranate products provide in reducing free radicals and in preventing the damaging effects of free radical induced pathology.

Cold Pressed Pomegranate Seed Oil is recommended as a highly emollient, protective and nourishing anti-aging skin-care ingredient and moisturizer. Pomegranate extract also has the unique ability to naturally boost the sun protection factor (SPF) rating of topical sunscreens whether applied topically or taken internally.

Examples of products based on these ingredients include:

- Skin cream for anti-aging
- Skin cleansing products
- Hair care products
- Ointments for post-menopausal dryness

### [Formulating](#)

Pomegranate Dry Peel, Seed and Juice Extracts are highly insoluble in water-oil formulas. Use levels in topical creams and lotions are suggested at the 1-3% level. Pomegranate Cold-Pressed Seed Oil can be emulsified using classic techniques and should be formulated at 0.1 -- 0.5% concentration level. It is recommended for best efficacy results that Peel Extract (high Ellagic Acid) and Seed Oil (Punicic Acid) be formulated together. The fine micronized (10 microns) version of the Dry Extracts are available for this purpose.

### [Pomegranate Products Available from Extracts & Ingredients, Ltd.](#)

#### ***Pomegranate Seed Oil and Oil Blends***

- Cold- Pressed Pomegranate Seed Oil (Organically certified or Standard)  
**Note:** Mixed natural tocopherols can be added at the customers request for added stability.
- Therapeutic Oil Blend – a proprietary blend of Cold-Pressed Pomegranate Seed Oil, Borage Oil, Jojoba Oil and Alpha-bisabolol
- Customized Cold-Pressed Pomegranate Oil Blends
- Cold-Pressed Pomegranate Seed Oil (10%) on Pomegranate Seed, Peel or Whole Fruit Extract

#### ***Pomegranate Extracts***

- Pomegranate Dry Peel Extracts... Minimum 40% Ellagic Acid
- Pomegranate Dry Seed Extract... Minimum 40% Ellagic Acid
- Pomegranate Dry Whole Fruit Extract... Minimum 40% Ellagic Acid
- Pomegranate Dry Juice Extract... Minimum 2% Ellagic Acid
- Pomegranate Liquid Hydro-glycolic Extract (3.1)
- Pomegranate Liquid Hydro-alcoholic Extract (3.1)

#### ***Micronized Pomegranate Powders***

- Pomegranate Juice Powder
- Pomegranate Seed Powder (defatted)
- Pomegranate Whole Fruit Powder
- Pomegranate Peel Powder

#### ***Pomegranate Scrub Products***

- Pomegranate Whole Seed
- Pomegranate Ground Seed
- Pomegranate Butter

All Pomegranate products from Extracts & Ingredients Ltd. are monitored for a high level of quality. Grown in organic orchards, the fruit must pass high quality standards before being processed into the extracts and oil.

All of Extracts & Ingredients Pomegranate products come with a Certificate of Analysis and are tested against International Standards, thereby assuring a consistent and verifiable quality.

### Regulatory

CAS#: 84961-57-9

INCI Name: Punica Granatum

Einecs#: 284-664-0

### Storage and Handling

Dry Pomegranate Extracts and Powders should be stored in cool, dry conditions in the original closed shipping container.

Cold-pressed Pomegranate Seed Oil should be stored in cool (preferably refrigerated) conditions away from sunlight or other lighted area.

All products should be handled using safety goggles, gloves and respiratory apparatus. Material Safety Data Sheet is available on request.

### Packaging

Pomegranate Dry Extracts and Powders: 25 kg. lined, fiber drums with a poly liner; 10 kg. customized packaging  
Pomegranate Seed Oil: 1 liter glass jars, 5 liter jugs

### Select References (additional references on request)

Nugteren DH, Christ-Hazelhof E: Naturally occurring conjugated octadecatrienoic acids are strong inhibitors of prostaglandin biosynthesis. Prostaglandin 33:403-417, 1987.

Schubert, S.Y., Lansky, E.P. & Neeman, I. Antioxidant and eicosanoid enzyme inhibition properties of pomegranate seed oil and fermented juice flavonoids. J. Ethnopharmacol 66:11-17, 1999.

Sharaf A, Nigm SAR, The estrogenic activity of pomegranate seed oil, Journal of Endocrinology, 29:91-92, 1964.

Abd El Whab SM, El Fiki NM, Mostafa SF, Hassan AEEL: Characterization of certain steroid hormones in Punica Granatum L. seeds. Bulletin of the Faculty of Pharmacy (Cairo University), 36: 11-15, 1998.

Moneam, NMA, El Sharaky, AS, Badreldin, MM: Oestrogen content of pomegranate seeds. J. Chromatography 438: 438-442, 1988.

Li JJ, Li SA, Oberley TD, Parsons JA. Carcinogenic activities of various steroidal and nonsteroidal estrogens in the hamster kidney: relation to hormonal activity and cell proliferation. Cancer Res. 55:4347-51, 1995.

McLaughlin, Lisa, "Pomegranate Power", Time Magazine, December 2003.

The information contained in this data sheet and the various products described are intended for use only by persons having technical skill at their own discretion and risk after they have performed necessary technical investigations, tests and evaluation of the products and their uses. While the information herein is believed to be reliable, we do not guarantee its accuracy and a purchaser must make its own determination of a product's suitability for purchaser's use for the protection of the environment, and for the health and safety of its employees and the purchasers of its products. The health related statements contained herein have not been evaluated by the U.S. FDA.

For additional information and samples, please contact David Fondots, V.P. Sales & Marketing at 908-688-9009x 259 or [dfondots@morretec.com](mailto:dfondots@morretec.com).