



# Proderna Biotech Pvt Ltd

PROducts DERived from NAture



[www.proderna.com](http://www.proderna.com)



## Introduction

**Proderna Biotech Pvt. Ltd.** is a unique Indo Dutch joint venture bridging the East and the West. India has always been a traditional source of Herbal plants and Spices. The JV uses CO<sub>2</sub> green process (SCFE), which ensures impurity free products. The extracts derived are pure and free of any residual solvents. Besides, the extracts contain no heavy metals and they are free from microbial contamination.

We supply essential oils and oleoresins from a variety of natural sources. Among them are also a range of non-GMO and organic grown raw materials.

An added incentive is our competitive pricing which will be only marginally higher than conventional solvent extraction / steam distillation for a far superior product. Quality, competitive prices and timely delivery are some of our beliefs and ways of conducting business.



## Technology

CO<sub>2</sub> technology allows selective isolation of the individual constituent. It results in improved quality product, Since the CO<sub>2</sub> process is carried out in an inert atmosphere, the shelf-life of the extract and therefore the end product is enhanced considerably. The CO<sub>2</sub>-process takes place at relatively low temperatures which makes it suitable for the isolation of temperature sensitive compounds. **PRODERNA** that is “**PRO**ducts **DER**ived from **NA**ture”. We are committed to providing Natural solvent free products using Supercritical Carbon dioxide in our process.





## List of Products — pure CO<sub>2</sub> - extracts

Name of Products	Botanical Name
Ajowain Seed Oil *	Trachyspermum copticum
Ambrette Seed Oil *	Abelmoschus moschatus
Amaranth Seedl Total Extract *	Amaranthus caudatus
Alpinea Galanga Total Extract	Alpinia galanga
Acrous Calamus Oil	Acorus calamus
Black Pepper Oleoresin *	Piper Nigrum
Black Pepper Oil *	Piper Nigrum
Black Pepper Extract 20 % VO *	Piper Nigrum
Cardamom Oil *	Elettaria cardamomum
Cardamom Total Extract *	Elettaria cardamomum
Caraway Seed Oil	Carum Carvi
Celery Total Extract	Apium graveolens
Cinnamon (Zeylanicum) Total Extract *	Cinnamomum Zeylanicum
Cinnamon (Cassia) Total Extract *	Cinnamomum Cassia
Chilly *	Capsicum annum
Coriander Total Extract *	Coriandrum sativum
Clove Oil *	Syzygium aromaticum
Coffee Oil	Coffea (arabica or robusta)
Coleus Oil	Coleus forskohlii
Costus Root Oil	Sassurea lappa
Cumin Black Oil *	Nigella sativa
Cumin Total Extract *	Cuminum cyminum
Fenugreek Total Extract *	Trigonella foenumgraecum
Fennel Oil *	Foeniculum vulgare
Fennel Total Extract *	Foeniculum vulgare
Flax Seed Oil	Linum usitatissimum
Ginger Oleoresin *	Zingiber officinalis
Ginger Oil *	Zingiber officinalis
Ginger Extract * 30%VO	Zingiber officinalis
Ginger Lily Oil	Hedychium Spicatum
Indian Holy Basil (Tulsi)Total Extract *	Ocimum sanctum
Neem Leaf extract *	Azadirachta indica
Nutmeg Butter *	Myristica fragrans
Nutmeg Oil *	Myristica fragrans
Nutmeg Total Extract *	Myristica fragrans
Oregano Oil	Origanum Vulgare
Oregano Extract	Origanum Vulgare
Pomegranate Seed Oil	Punica granatum
Sea buckthorn Seed ** Oil	Hippophae rhamnoides
Sea buckthorn Fruit ** Oil	
Spearmint Total Extract *	Mentha Spicata
Spilanthis Acmella Total Extract *	Spilanthes acmella
Turmeric Oil *	Curcuma longa
Vanilla Extract *	Vanilla planifolia
Valerian Oil	Valeriana officinalis
Vetiver Total Extract	Vetiveria zizanioides

\* Also available in Certified Organic

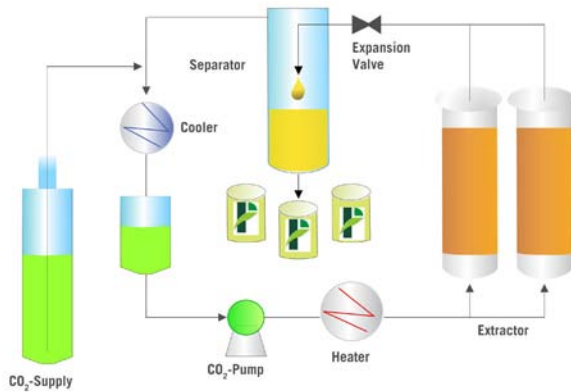
\*\* Wild crafted





## Process

A brief outline of the process is given below:-



Dry spices/Herbs are cleaned of the adhered impurities and other foreign material and powdered.

The powder is charged to the pre-heated extraction vessel and the vessel is pressurized with CO<sub>2</sub> from the storage tank. The CO<sub>2</sub> is passed through the extraction vessel resulting in the extraction of target products (e.g. Oleoresin/ Essential Oils). By depressurization of this mixture into a separator vessel, gaseous CO<sub>2</sub> is recovered, recycled, and fed back to the storage tank.

The liquid or solid product is collected at the bottom of a separator vessel and is withdrawn. Due to the earlier evaporation of the CO<sub>2</sub>, this product is solvent-free. It is checked for quality, standardized to customer requirements packed and labeled .

## Advantages of SCFE

The conventional distillation/solvent extraction process being largely used currently is not an environment friendly process and has inherent disadvantages like thermal degradation, hydrolysis, heavy metals, pesticides and traces of unacceptable residual solvents. The SCFE process overcomes these drawbacks.



### Advantages - Process

- CO<sub>2</sub> is a colorless, tasteless, odorless, and non toxic **GRAS** solvent
- Low temperature process - does not effect heat sensitive ingredients
- Process in non-oxidative CO<sub>2</sub> atmosphere
- Longer shelf life for end products

### Advantages - Products

- No residual solvents
- No heavy metals
- No microbial contamination
- Optionally higher concentrated and lesser consumption by 15-25%





PRODUCTS DERIVED FROM NATURE



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