



Overview

The trend towards natural products has been increasing every year. In the last 15 years, the consumer has been looking for any approaches to maintaining the youthful look and extending their life spans. The concepts developed by recent research regarding free radicals and the damage to the body from them, enables the consumer to understand the importance of natural products in maintaining their health and youthful appearance. We have seen a large increase in the use and demand for botanical extracts in personal care and cosmetic products. The driving force behind the growth will continue to be the baby boomer generation, a group that spends billions each year in an effort to look youthful and healthy. This includes a greater use of fruit and vegetable extracts as well. Folklore has shown that most healing remedies have come from natural sources for thousands of years. Now that our technology and science can validate the effectiveness of these products, more are becoming mainstream everyday.

Bio-Botanica® Inc. is proud to offer an entirely natural, environmentally sustainable, and beneficial botanical product line to its customers called Zea Botanicals™. These ingredients are made using our research and technology, with the proprietary ingredient, Zemea® propanediol. Zemea® is a multi-purpose product developed by DuPont Tate & Lyle Bio Products. Zemea® is a “bio-based” 1,3 propanediol that acts as an all-natural solvent with many added benefits. Bio-Botanica has coupled the multi-faceted functionality of Zemea® with our versatile line of over 150 botanical extracts to offer a completely new product category: Zea Botanicals™.

What Zea Botanicals™ Can Do For You

The therapeutic value of a plant extract lies in its ‘holistic balance’ of components, which Bio-Botanica® captures using our pioneering Biochelated® extraction technique. We now employ the same holistic principles to our ‘holistically balanced® botanical authentication. Traditionally, phytochemical authentication involves the analysis of one or a few components. Our innovative ‘holistic authentication™’ expands upon tradition to capture the entire phytochemical spectrum of a plant. We obtain a ‘botanical fingerprint’ using state of the art LC/MS-MS along with other proprietary analytical techniques. The data is analyzed using advanced chemometric approaches, including Principal Component Analysis (PCA), which can detect minor deviations from the natural balance.

The result of our 'holistic authentication[™]' is a botanical product that is as close to nature as possible. The value is passed on to both you, and the consumer, who can rest assured that the botanical extract in your hand is authentic, safe, and effective.

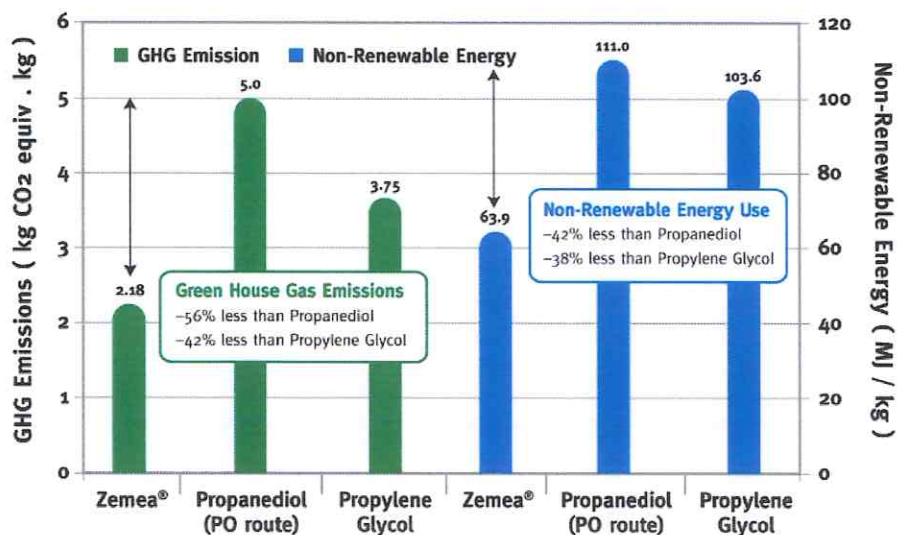
Bio-Chelation® simulates the plant cell in its ability to keep all the minerals and inclusions (reserve food material and active constituents) in a colloidal aqueous medium. The process stays away from the high alcoholic, heavy toxic solvents or heat applications and instead uses cold low alcoholic menstruums carefully adapted to each individual plant and its constituents. It is then concentrated under high vacuum in either glass lined or stainless steel vessels.

Our extracts are unique with maximum potency without any undesirable excipient and easily solubilized giving a clean non-turbid very effective product with excellent physical and chemical characteristics unavailable from any other competitor. Our extracts are holistically balanced® possessing the full spectrum of constituents matching as close as possible the way they exist in the natural plant.

Zea Botanicals[™] allows you to add the Bio-Botanica® botanical extracts, and the inherent benefits from them, to your products enabling consumers to discover a healthier and improved indulgence from the product. The addition of Zemea®, a preservative-boosting humectant, replaces petroleum-based glycols such as propylene glycol and butylene glycol. Having botanical extracts in Zemea®

helps to reduce greenhouse gas emissions by more than 40% while also reducing energy from its production by as much as 42%. Additional functionalities and benefits offered by the Zea Botanicals™ include:

- Approved Solvent (EPA)
- Emollient
- Hand-feel Modifier
- Preservative Booster
- Viscosity Enhancer
- Non-skin Irritant/Sensitization
- Improved Humectancy
- Exceptional Sensory Characteristics
- Improves Viscosity-Building
- Enhanced Clarity
- Increased Foaming (if desired)
- Carrier of Active Cosmetic Ingredients
- Natural Esters Cosmetic Ingredients
- Cosmetic Ingredient for Natural Preservative System
- No Preservatives
- High Freeze/Thaw/Heat Stability
- Petroleum-Free
- Low Vapor Pressure
- Anti-Bacterial & Anti-Fungal Properties



Zemea® Approvals and Certifications

Zemea® is the first specialty glycol product to be approved by EcoCert™. –
Approved as an ingredient of natural origin, the certifications include:

- DfE - EPA's Design for the Environment - First solvent approved under this program
- EcoCert™ - Approved as an ingredient of natural origin
- EPA Inert Ingredient in Nonfood Use Pesticide
- Halal (Zemea®)
- Halal (Zemea® USP)
- Health Canada - Natural Health Products Ingredient
- Kosher (Zemea®)
- Kosher (Zemea® USP)
- Natural Products Association (NPA) - Certified natural ingredient for Personal Care and Home Care
- s-GRAS - Safe for use as a food ingredient in same categories/concentrations as PG
- USDA 100% Bio-Based
- USP-FCC
- USP-NF

Combined with the botanical extracts of Bio-Botanica® Inc., you are assured of a totally natural, fully integrated ingredient for your customer's production. Our botanicals are:

- ✓ Manufactured in a GMP Certified Facility
- ✓ Kosher Certified
- ✓ Responsibly Wildcrafted or Organic Natural Herbs
- ✓ ID Tested Before and After Production

We currently offer over 150 botanical extracts available in Zemea® providing a wide variety of options to choose from. Along with the many different selections available, you can also customize the size of your order. Zea Botanicals™ can be ordered from one gallon and up, allowing you to meet your specific manufacturing requirements.

Superb Customer Support

Not only is Zea Botanicals™ sure to impress, but our team of sales associates, research scientists, and quality specialists will support you and answer your questions at every stage of your product life cycle. Our quick shipping will ensure you can get started with Zea Botanicals™ right away.

** Zemea® is a registered trademark of DuPont Tate & Lyle Bio Products Company LLC.*

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