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Award Category:
Technology Innovation of the Year**Award Description**

Frost & Sullivan's Technology Innovation of the Year Award is bestowed upon a company that has carried out new research, which has resulted in innovation(s) that have or are expected to bring significant contributions to the industry in terms of adoption, change, and competitive posture. This Award recognizes the quality and depth of a company's research and development program, as well as the vision and risk-taking that enabled it to undertake such an endeavor.

Research Methodology

To choose the Award recipient, Frost & Sullivan's analyst team tracks innovation in key hi-tech markets. The selection process includes primary participant interviews and extensive primary and secondary research via the bottom-up approach. The analyst team shortlists candidates on the basis of a set of qualitative and quantitative measurements. The analysts also consider the pace of research and technology innovation and the significance or potential relevance of the innovation to the overall industry. The Award recipient is chosen after a thorough evaluation of this research.

Measurement Criteria

In addition of the methodology described above, there are specific criteria used to determine the final rankings. The recipient of this Award has excelled based on one or more of the following criteria:

- Significance of the innovation(s) in the industry, and across industries (if applicable)
- Potential of the products of innovation(s) to become industry standard(s)
- Competitive advantage of innovation versus other related ones
- Impact (or potential impact) of innovation(s) on company or industry mindshare and/or company bottom line
- Breadth of intellectual property related to the innovation(s), i.e. patents, scientific publications, papers in peer reviewed journals

2005

FROST & SULLIVAN

Personal Care Chemicals & Intermediates
Technology Innovation of the Year Award

Lonza, Inc.



Lonza

Frost & Sullivan's 2005 Technology Innovation of the Year Award in the field of chemicals and intermediates for personal care product applications goes to Lonza Inc. for developing the pathbreaking 'Natrulon® DermaSphere™ Oleosome' Technology. This new, self-emulsifying technology has been developed in conjunction with SemBioSys Genetics Inc. As the name suggests, the DermaSphere Oleosome Technology utilizes novel constituents - oleosomes - which facilitate the formulation of various cosmetic and personal care products with unique properties, at competitive manufacturing costs.

Cosmetic emulsions are usually thermodynamically unstable systems. Controlling their particle size and zeta potential can stabilize them. Diluting these systems is cumbersome as it affects the particle size and hence the stability. Furthermore, performance characteristics such as efficacy and spreadability have a direct bearing on the particle size. Designing a cosmetic emulsion is therefore a complex and tedious process and numerous trials are needed to obtain an effective, stable, cost effective and safe product.

Lonza's all-natural and multifunctional Natrulon DermaSphere Oleosome Technology combines the functions of an emollient, emulsifier and a moisturizer in a single product. The mild and non-sensitive nature of this product technology facilitates the formulation of cosmetic solutions at low cost and offers the additional formulation manufacturing benefits of cold processing. This product can constitute the entire oil phase in a cosmetic emulsion, thus easing formulating.

Oleosomes, which create a natural oil-in-water emulsion, originate from plant seeds and are composed of unique proteins called 'Oleosins'. The oleosome emulsion is highly flexible and offers several functionalities such as emolliency, emulsification and moisturization in addition to being a potential carrier/delivery system for small active molecules. The first product launched by Lonza based on this technology is "Natrulon OSF", which is comprised of oleosomes derived from safflower seeds. This plant-based product is primarily geared for use in skin-care lotions, creams and moisturizers, but it can also be employed for use in sunscreens, eye-care products, ointments as well as a wide range of other potential cosmetic formulations.

It is important to note that the oil phase of the cosmetic emulsion can be addressed entirely by the self-emulsifying oleosomes. This feature simplifies the cosmetic formulation process by rendering stability to the system. From the manufacturing standpoint, too, the oleosome product technology is advantageous, since it is based on cold processing - which helps in lowering energy requirements and hence, production costs.

In summary, Lonza's Natrulon® DermaSphere™ Oleosome Technology represents a major breakthrough in cosmetic formulation technologies. In fact, it is an important milestone in the development of innovative technologies for the entire personal care segment. Frost & Sullivan's 2005 Personal Care Chemicals & Intermediates Technology Innovation of the Year Award recognizes Lonza for this achievement and for its overall excellence in technology innovation in the field of personal care.