LASENOR & THE WORLD OF ICE CREAM

LASENOR'S KNOW-HOW, INNOVATION, AND SOLUTIONS FOR THE FROZEN DESSERT INDUSTRY.



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The Art & Science of Ice Cream

Ice cream is more than a dessert. It is an experience that blends art, science, and emotion. Behind every scoop lies a delicate balance between fat, air, ice, and water, each contributing to the texture, smoothness, and indulgence that consumers love.

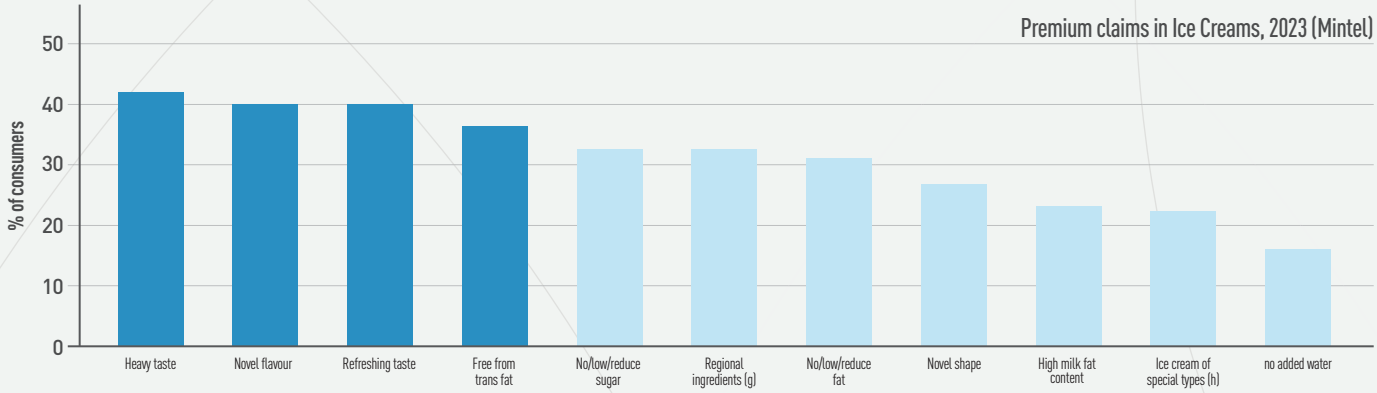


At **Lasenor**, we understand that the magic of ice cream lies in mastering this balance. Achieving the ideal structure is a technical challenge: air bubbles, ice crystals and the fat phase must be perfectly harmonized. Together, these elements define how the product feels, melts, and delights the senses.

This harmony is achieved through emulsion science, the foundation of texture, overrun, and melting resistance. With decades of expertise in emulsifiers and stabilizers, **Lasenor** helps formulators transform recipes into sensory experiences, ensuring that science serves emotion, one creamy spoonful at a time.

Market Insights & Global Trends

The global ice cream market is evolving — combining indulgence, innovation, and responsibility. Consumers now seek products that **excite the senses while reflecting healthier and more ethical lifestyles.**



Top 5 Global Trends Transforming the Ice Cream Market

1 Flavour & Texture Innovation:
Novel and nostalgic flavours — from bakery-inspired to regional favourites — enhance indulgence through multi-textured, layered formats.

2 Health & Functional Benefits:
"Better-for-you" ice creams with less sugar, clean-label ingredients, prebiotics, and plant-based formulations are reshaping expectations.

3 Premiumisation & Authenticity:
Artisanal processes, local sourcing, and strong storytelling create emotional connection and justify premium positioning.

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5 Smaller Formats & Snacking:
Bite-sized, portion-controlled novelties make ice cream a convenient, anytime pleasure.

The Technical Challenge of Ice Cream Formulation



Behind every successful ice cream is a fine-tuned structure that must remain stable, creamy, and appealing from the first scoop to the last bite. Reaching that balance requires a deep understanding of ingredient interactions, process conditions, and emulsion dynamics.

During production, the formulation is exposed to extreme mechanical and thermal stress: mixing, homogenization, freezing, and storage. Each stage can affect texture, stability, and mouthfeel. That's why even minor formulation adjustments can distinguish between a grainy texture and a perfectly smooth product.

Key formulation challenges include:

- Fat dispersion and emulsification: creating uniform fat networks for creaminess and structure.
- Air incorporation and overrun control: achieving the desired volume and lightness without collapse.
- Freeze–thaw stability: preventing ice crystal growth during storage.
- Texture and sensory optimization: balancing smoothness, melt rate, and body to deliver indulgence.

Emulsion science, the invisible architecture of ice cream, governs all these parameters. Mastering it ensures a product that performs consistently, tastes indulgent, and delights the senses.

At Lasenor, we turn scientific insight into practical solutions. Our emulsifiers and stabilizer systems are designed to enhance structure, improve stability, and optimize sensory quality, whether in dairy, low-fat, or plant-based formulations.

Key Structural Elements in Ice Cream



Air bubbles: Increase volume and profitability. They also influence sensory quality: more air results in a lighter product but one that is less creamy.

Fat clusters: Fat is a crucial ingredient in ice cream. It must be carefully regulated to avoid an unpleasant greasy mouthfeel while still delivering the desired creaminess and flavor.

Ice crystals: The size of the crystals is determined by both the formulation and the freezing process. Smaller crystals are desirable, as they ensure a smoother texture.

Unfrozen phase: This is a sugar solution in which ice crystals, air, and fat are suspended. The choice of sugar impacts calorie content, sweetness perception, flavor release, and the prevention of ice crystal growth.

Lasenor Expertise: From Science to Real-World Solutions

Innovation at **Lasenor** starts with science and comes alive through hands-on experimentation. Our strength is not only in understanding emulsification but also in turning that knowledge into reliable, scalable solutions.

With decades of experience in emulsifiers and stabilizers, we help ice cream manufacturers achieve the perfect balance of texture, stability, and indulgence. Our technical teams collaborate closely with customers to refine formulations and solve specific production challenges.

Our Ice Cream Pilot Plant

To bridge the gap between research and reality, Lasenor operates a fully equipped pilot plant designed to simulate industrial ice cream processes. From mixing and pasteurization to freezing and packaging, this facility allows partners to test, compare, and validate new concepts before full-scale production.



Tailor-Made Systems

We don't offer standard products; we deliver functional systems tailored to performance needs:

- Emulsifiers for smooth texture, aeration, and stability
- Stabilizers to control ice crystal growth and melting
- Synergistic blends for specific dairy and non-dairy applications

Our integrated approach, combining formulation science, pilot testing, and collaboration, ensures consistent, scalable, and delicious results. Co-Creation & Continuous Innovation.

Innovation in ice cream is a shared journey. At **Lasenor**, we believe that progress happens when our expertise meets our customers' creativity. Through close technical partnerships, pilot trials, and joint development projects, we help transform product ideas into successful, scalable formulations.

Our role goes beyond supplying ingredients; we share insights, formulation know-how, and market intelligence to accelerate innovation and help our partners stay ahead in a competitive landscape. Whether refining a texture, adapting to new raw materials, or developing plant-based alternatives, we're there from concept to commercialization.

Together, we turn challenges into opportunities and ideas into market-ready products.

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