



Opti-Ice™ Premium

Opti-Ice™ is a complete range of tailored ice cream solutions including functional, nutritional and indulgent applications.

Let's get technical

Glanbia Ireland Goodness Grows Here

Glanbia Ireland is an ingredient solutions partner to some of the world's leading companies and brands. At the forefront of ingredient technology, we offer a range of solutions to match the ever-changing demands of the food and nutrition industry and its consumers. With quality dairy and grains sourced from 5,000 Irish family farms, combined with advanced market research and insights, our unique platform offers fully traceable and sustainably produced natural solutions to help our customers stay ahead of the curve.

Meet Consumer Demand with Opti-Ice™ Premium

- ✓ Reduced calories
- ✓ Reduced fat
- ✓ Increased protein
- ✓ Better-for-you indulgence
- ✓ Made from fresh cream
- ✓ High sensory quality

In-House R&D at Your Service



50+ multi-disciplinary R&D associates:

Nutrition
Applications
Food Science
Formulation
Process Technology
Analytical Science



Innovating and providing value for customers in:

Cheese Solutions
Essential Dairy Solutions
Plant Based Solutions
Specialised Nutrition:
Infant & Clinical



Equipped with:

Pilot Plants
Analytical Labs
Application Labs
Sensory Suite



Through 4 key functions:

New Product Development-
Technology and Applications
Customer Open Innovation
R&D Program & Governance
Applied Research


glanbia
ireland

GOODNESS
GROWS
HERE

What Your Consumers Say



Consumers want “better-for-you” ice cream

Due to health concerns, consumers globally are increasingly looking for ice cream products based on “better-for-you” recipes.



Balance health with indulgence

Brands need to balance delivering health credentials alongside indulgence to keep consumers interested.



Health & wellness product attributes

such as ‘food minus’ and consumer benefits such as ‘weight & shape management’ are the most sought after health & wellness claims in the Japanese ice cream sector.



Premium quality drives value sales

Elevating the premium quality credentials of ice cream will drive value sales in developed markets. To achieve this, using high-quality ingredients is essential.



With more protein, ice creams are getting healthier

The protein content per 100ml of dairy-based ice cream launched increased by 9% between 2015 and 2019.



Less sugar and fat

in ice cream are strong trends. The sugar content per 100ml of dairy-based ice cream launched was reduced by 4% between 2015 and 2019. 7% of ice cream launches in 2019 featured a low-fat claim vs 6% in 2018.



GMO free

is among claims growing in popularity for ice cream launches in Asia. Low fat, no additives/preservatives, low sugar and low calorie are other growing claims.



A variety of textures

is becoming an important component to deliver memorable ice cream eating experiences in Asia Pacific markets – particularly for younger generations.

Sources: Source: Mintel – A year in innovation in ice cream, 2019; GlobalData – Japan Ice Cream, June 2018; Innova – Desserts and Ice Cream in Asia, July 2019

Opti-Ice™ Premium

The ultimate in creamy, frozen indulgence minus the guilt

With Opti-Ice Premium, a solution specifically designed for the health-conscious ice cream lover, you can achieve a low-fat, high-protein frozen treat without compromising on taste or texture.

Ingredient		Standard Ice Cream Formula*	Opti-Ice Premium Formula: Higher Protein, Lower Fat
Fat	Double Cream	25.0%	6.3%
MSNF	Skim Milk Powder	10.4%	3.5%
	SolagoHD MPC 8501	0.0%	7.3%
Sugars	Sugar	14.0%	12%
	Fructose	0.0%	2.0%
	Maltodextrin	0.0%	10.1%
Emulsifier/Stabiliser	Emulsifier/Stabiliser Blend	0.45%	0.45%
Flavour	Natural Flavour	0.1%	0.1%
	Water	50.1%	58.3%
Total		100%	100%
Total Solids		37.72%	37.66%
Calculated Nutritionals g/100g			
Kcal		206	161
Fat		12.0	3.0
Carbohydrate		20.2	25.7
Protein		4.1	7.5

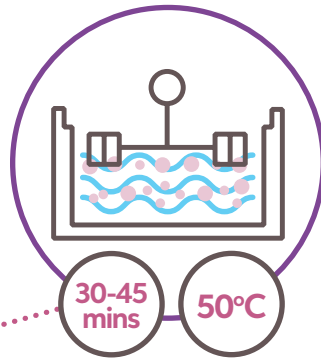
*12% fat content formulation





1 Milk Protein Hydration

Milk Solids Non Fat (MSNF) ingredients are hydrated first. For optimal hydration of our SolagoHD MPC 8501 GI recommends high shear mixing on introduction of SolagoHD MPC 8501 to water at 50°C, ensuring full dispersion. This is followed by agitation for a minimum of 30 minutes to ensure complete hydration.



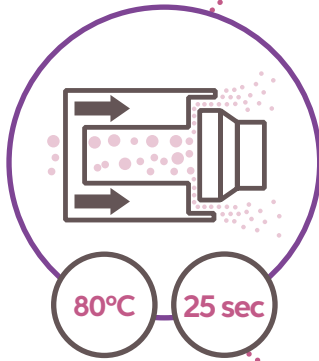
2 Ingredient Mixing

Additional ingredients: Sugars or alternatives, Fat, Emulsifiers, Stabilisers, Flavours, Colour.



3 Pasteurisation (80°C x 25 sec)

In addition to destruction of pathogenic bacteria and reducing overall bacterial load, pasteurisation may also serve a role in fully solubilising the milk protein base, stabilisers and emulsifiers.



4 Homogenisation

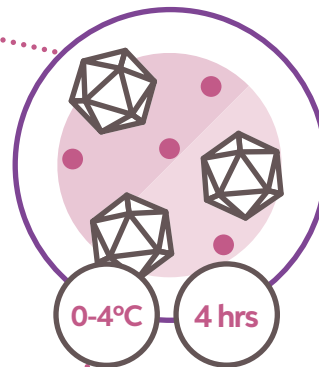
Homogenisation is carried out to ensure a smooth ice cream texture and an even distribution of fat, producing fat globules of average diameter $\leq 1\mu\text{m}$. For optimal homogenisation of ice cream formulations at lower fat GI recommends increasing homogenisation pressures to 220 Bar.



5 Cooling & Aging

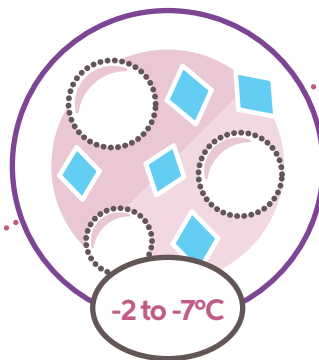
The ageing step is carried out at between 0-4°C for a minimum of 4 hours and is a critical step to ensure;

- Protein and stabiliser hydration,
- Fat crystallisation,
- Rearrangements at the fat globule membrane as proteins are displaced by emulsifiers at the membrane surface, forming a thinner membrane more prone to coalescence during whipping.



6 Continuous Freezing

The final ice cream structure is formed through incorporation of air by whipping during the continuous freezing process at temperatures between -2 to -7°C. Shearing during the whipping process is also responsible for formation of partially coalesced fat which plays an important role in stabilising air bubbles and the overall ice cream structure.



7 Filling / Packing (-5°C)

Temperature control during freezing, hardening and storage is critical to promote the formation of and maintain small ice crystals ensuring ice cream develops a smooth texture with optimum shelf life.



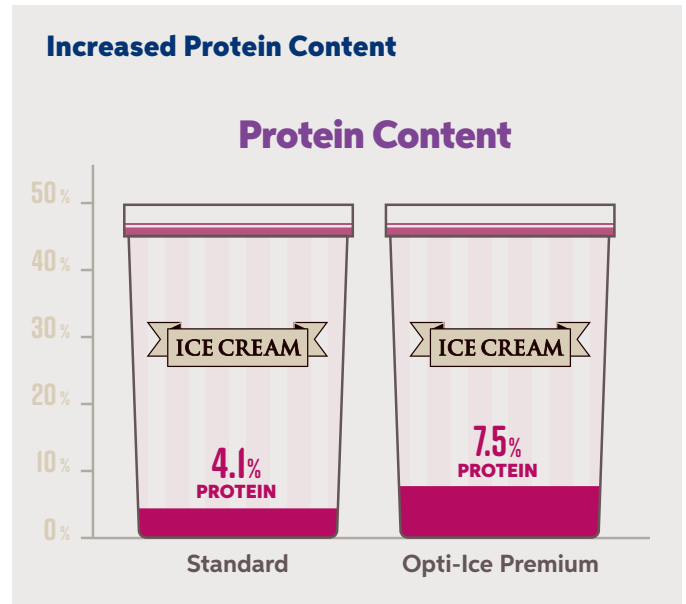
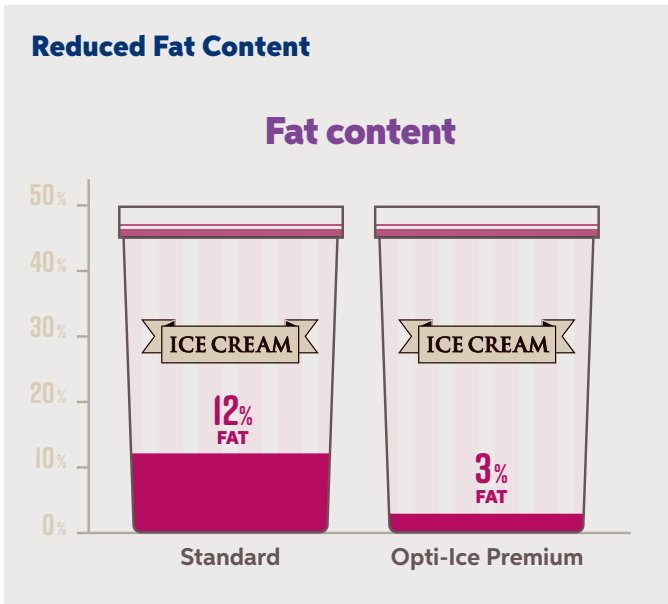
8 Hardening (-25°C to -35°C)



9 Storage (-20°C to -25°C)

Functional Benefits

Our Opti-Ice Premium solution performs exceptionally well to deliver the following advantages:



Summary

The increased awareness of health and wellbeing has fuelled the popularity of indulgent snacks that deliver well on protein-rich, better-for-you, delicious tasting ice creams. Our Opti-Ice Premium formulation has overcome the challenges associated with reducing fat to produce an ice cream solution that is:

- ✓ **Higher in milk protein**
- ✓ **Lower in fat**
- ✓ **Full-bodied, indulgent taste**
- ✓ **Rich, creamy mouthfeel**
- ✓ **Maintains exceptional sensory characteristics**
- ✓ **Natural dairy goodness**

The higher protein content demonstrates an excellent ability to mimic the presence of fat through its water holding capacity leading to enhanced viscosity, and through the controlled denaturation of naturally present whey proteins during heat treatment, helping to achieve a full and creamy texture.

Product Range, Packaging and Shelf Life

A range of Opti-Ice solutions for versatile ice cream applications is available including:

- **Opti-Ice Premium** 20kg bags & 24-month shelf life
- **Opti-Ice Value** 25kg bags & 18-month shelf life

Get in Touch

To find out more about our Opti-Ice range of solutions, please contact us at Glanbia Ireland.

Email: solutions@glanbia.ie

www.glanbiaingredientsireland.com

