



**Ingredion**<sup>®</sup>

Be what's next<sup>™</sup>



## **Taste sweet liberation in dairy**

Concept recipes



Ingredion.

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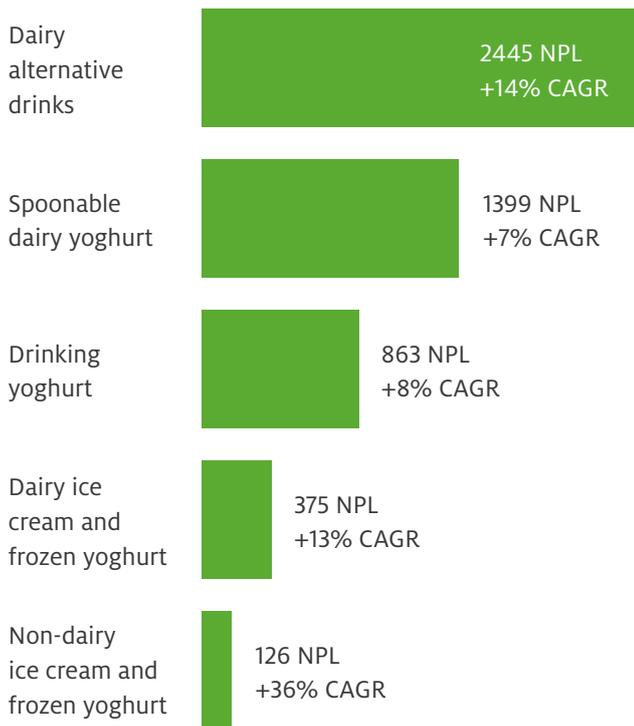
## Introduction

### Taste sweet liberation in dairy

Consumers globally are looking to break free from sugar. Bolstered by the COVID-19 pandemic, a renewed focus on health and wellness has made reducing sugar more important over the last 12 months to 54% of consumers.<sup>1</sup>

To meet this increasing demand in EMEA, the number of new dairy and dairy alternative products launching with sugar-reduction claims is increasing, with an overall CAGR of 8,6% from 2017-2021.<sup>2</sup>

#### Top dairy categories with sugar reduction claims EMEA 2017-2021<sup>3</sup>



**Yet, not all alternative sweeteners are viewed equally by consumers.** A study conducted by Ingredion, spanning the UK, France, Germany, South Africa, Spain and Russia and 2,100 respondents, shows that, with the increased focus on health and wellness, there is also a strong emphasis on 'natural' ingredients.

Nearly 2 in 3 consumers seek:

- 'All natural'
- Non-calorie sweeteners

### Seen to be the most natural sweeteners — and healthy alternatives to sugar:<sup>4</sup>



Honey

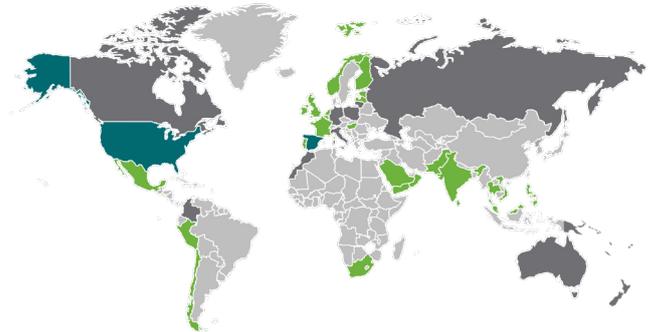


Stevia



Maple syrup

On top of consumer demands for less sugar, more than 25% of all countries globally are imposing taxes and regulations to address a growing public health crisis.<sup>5</sup> Plus, in Europe, Nutri-Scores show nutritional quality right on front-of-pack. It's not only consumers that need to taste the sweet liberation of sugar-reduced foods and beverages — it is also important for your company to break free from sugar taxes and scrutiny.



- Sugar tax proposed or awaiting vote
- Local taxes (cities, states, provinces, regions, etc.)
- Sugar tax in place currently

**59%** of global consumers say 'taste' and 'texture' are their top purchase motivators.<sup>6</sup>

However, simply replacing sugar 1-to-1 with an alternative isn't enough because sugar does so much more than provide the 'gold standard' for sweet taste. On top of sweetness, sugar:

- Delivers flavour enhancement and release
- Influences viscosity, texture, body and mouthfeel
- Lowers the freezing point depression

Understanding the synergies of sugar reduction solutions is key. The solution may involve more than just sweeteners to replicate the full-sugar sensory experience. For example, lowering the sugar content of strawberry yoghurt affects the product's viscosity, which impacts the flavour perception.

## Plan your escape from sugar

Partnering with a supplier that has a full range of ingredient solutions and expertise in co-creating formulations makes the process of producing the right result for your target consumer much easier.

At Ingredion, we help manufacturers make a clean getaway from sugar — without compromising on taste and texture. We are uniquely positioned to solve sugar reduction formulation challenges, thanks to one of the largest stevia sweetener and flavour modifier portfolios in the market, combined with our strong heritage of clean label texturising solutions.



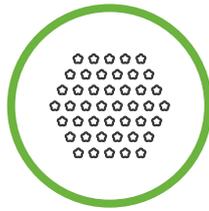
## Our solutions deliver on the three pillars of sugar reduction



### Sugar reduction

PureCircle™ by Ingredion offers a full range of stevia-based sweetener solutions — including Reb M, which is suitable for use in sugar-free, no-sugar-added and reduced-sugar dairy and dairy alternative formulations.

ERYSTA® Erythritol is a polyol that enables manufacturers to achieve energy reduction or no-added-sugar claims and supports functional build-back enabling you to reduce sugar in multiple applications, such as ice cream, desserts and fruit preparations.



### Texture and structure

Create differentiated texture with a full range of modified and clean label starches. For instance, NOVATION PRIMA® 303 starch, made from tapioca, provides the process tolerance of a modified starch with a more consumer-friendly label. It can also help you enhance creaminess and improve flavour in your dairy applications while increasing texture stability over shelf life.



### Natural flavour modification

PureCircle™ by Ingredion natural flavour modifiers can enhance the overall taste and enrich fruity toppings and creamy vanilla flavours in dairy and dairy alternative applications. Furthermore, they can help reduce salt content in cheese applications as well as mask plant-based protein notes in dairy alternatives.

Discover our NSF-04 natural flavour modifier, which helps enhance the raspberry flavour of your sugar-reduced desserts.

Our dedicated research and development team have the extensive know-how of the dairy and dairy alternatives industry to:

- Solve your formulation challenges across all applications
- Improve the Nutri-Score of products
- Measure, quantify and statistically analyse the texture and sweetness of everything from single ingredients to finished products

We can also help your formulations adhere to regulations around the globe. We can provide the regulatory support to guide your formulation process and the expertise to align your products' stevia dosages depending on the application, region and labelling to remain within regulations.

Take inspiration from this recipe book to create your own products free from the confines of sugar... from delicious no-added-sugar vanilla desserts that offer the sensory appeal consumers crave to fruit toppings with improved nutritional profiles and creamy, frozen vegan dessert.

Start delivering sugar-reduced dairy products with Ingredion's innovative solutions and help your consumers be free from sugar.



## No-added-sugar vanilla dessert



### Possible claims



No added sugar



Indulgent

### Nutrition facts

**Serving size: 100g**

	Amount per serving
Energy	78kcal / 325kJ
Fat	3g
of which saturates	2g
Carbohydrate	12g
of which sugars	4g
Protein	3g
Dietary fibre	0g
Salt	0.1g

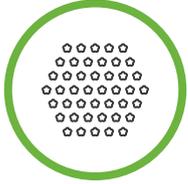
### Ingredients

Full fat milk, modified starch, bulking agent (erythritol), colouring food (concentrates of carrots and pumpkins), natural flavour, sweetener: enzymatically produced steviol glycosides.

**Create a no-added-sugar crème dessert that combines an indulgent texture and appearance.**

## Recipe building blocks

No-added-sugar vanilla dessert



### Texture & structure

- Builds viscosity
- Recommended for moderate process tolerance

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### NATIONAL FRIGEX®



### Sweetness & build back

- Full functional build back
- Approx. 70% as sweet as sugar
- Zero calories

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### ERYSTA® Erythritol



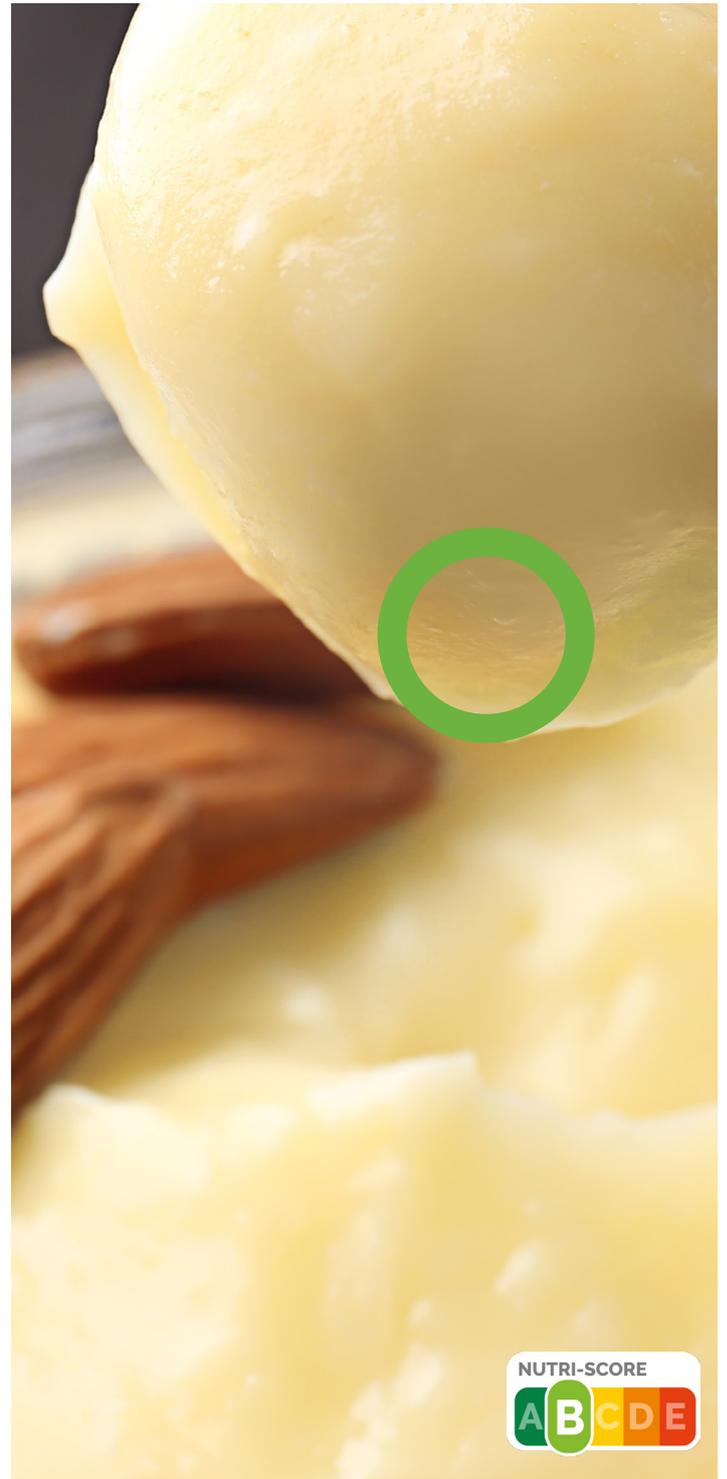
### Sweetness

- Up to 300 times sweeter than sugar
- Clean sensory profile
- Most sugar like taste
- Plant based
- Zero calories

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### PureCircle™ bio converted Reb M

Ingredients	
Full fat milk	91.7%
<b>NATIONAL FRIGEX®</b>	<b>5%</b>
<b>ERYSTA® C4o Crystalline</b>	<b>3%</b>
Colourant	0.15%
Vanilla flavour	0.08%
<b>PureCircle™ bio converted Reb M</b>	<b>0.0417%</b>
<b>TOTAL</b>	<b>100%</b>



Learn how to create your own 'naturally' sweet and indulgent, no-added-sugar crème dessert.

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## Calorie-reduced fruit topping



### Possible claims



Calorie-reduced

### Nutrition facts

**Serving size: 100g**

	Amount per serving
Energy	84kcal / 354kJ
Fat	0g
of which saturates	0g
Carbohydrates	31g
of which sugars	15g
Protein	1g
Dietary fibre	2g
Salt	<0.1g

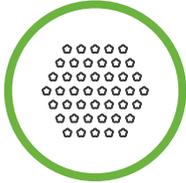
### Ingredients

Raspberry, water, sugar, erythritol, tapioca flour, citric acid, sweetener: enzymatically produced steviol glycosides, natural flavour.

**Enhance the nutritional quality of your desserts and yoghurts with delicious, calorie-reduced raspberry fruit topping.**

## Recipe building blocks

Calorie-reduced fruit topping



### Texture & structure

- Improved creaminess, flavour and texture stability over shelf life
- Consumer friendly labelling: 'natural', simple

**HEMCRAFT® CREATE 365**



### Sweetness & build back

- Full functional build back
- Approx. 70% as sweet as sugar
- Zero calories

**ERYSTA® Erythritol**



### Sweetness

- Up to 300 times sweeter than sugar
- Clean sensory profile
- Most sugar-like taste
- Plant based
- Zero calories

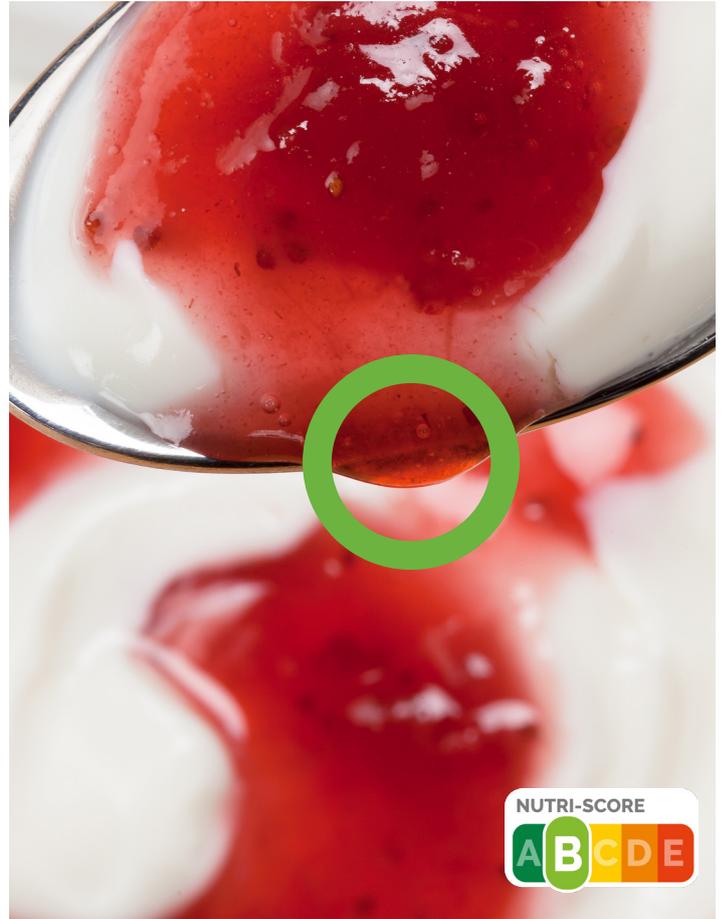
**PureCircle™ bio converted Reb M**



### Natural flavour modification

- Help improve overall sweetness profile
- Sugar-like flavour solution which minimises bitterness
- Enhances raspberry flavour while improving overall sweetness profile
- Labelled as 'natural' flavour

**PureCircle™ natural flavour NSF-04**



Ingredients	
Water	up to 100%
Sugar	13.5%
<b>ERYSTA® C40 Crystalline</b>	<b>12%</b>
Raspberries	7-10%
<b>HEMCRAFT® CREATE 365</b>	<b>4%</b>
Citric acid	0.45%
<b>PureCircle™ bio converted Reb M</b>	<b>0.011%</b>
<b>PureCircle™ NSF-04</b>	<b>0.007%</b>
<b>TOTAL</b>	<b>100%</b>

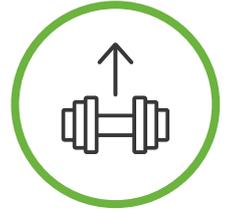
Learn how to create a calorie-reduced raspberry fruit topping to help improve nutritional profile of desserts and yoghurts.

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## High-in-protein plant-based fermented dessert



### Possible claims



High in protein



Vegan



Creamy

### Nutrition facts

**Serving size: 100g**

	Amount per serving
Energy	82kcal / 344kJ
Fat	3g
of which saturates	2g
Carbohydrate	9g
of which sugars	5g
Protein	5g
Dietary fibre	1g
Salt	0.3g

### Ingredients

Oat milk, coconut milk, water, pea protein, dextrose, rice flour, natural flavour.

**Deliver the creamy vegan fermented desserts today's consumers want that are high in protein.**

## Recipe building blocks

High-in-protein plant-based fermented dessert

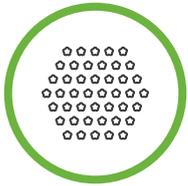


### Protein enrichment

- Source of protein
- Excellent emulsification properties
- Mild flavour profile

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### VITESSENCE® Pulse 1803



### Texture & structure

- Delivers a creamy texture
- Opaque product labelled as a clean flour
- Process resistant
- Shelf-life stability

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### HEMOCRAFT® CREATE 865



### Natural flavour modification

- Modifying properties help improve overall sweetness profile
- One of the most 'sugar-like' flavour solutions
- Minimises bitterness
- Labelled as 'natural' flavour

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### PureCircle™ natural flavour NSF-13

Ingredients	
Oat milk	Up to 100%
Coconut milk	11.2%
Water	9.5%
<b>VITESSENCE® pulse 1803</b>	<b>5.3%</b>
Dextrose	2%
<b>HEMOCRAFT® CREATE 865</b>	<b>2%</b>
<b>PureCircle™ NSF-13</b>	<b>0.002%</b>
<b>TOTAL</b>	<b>100%</b>



Deliver a high-protein, yummy fermented vegan dessert.

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## Reduced-sugar vanilla frozen dessert



### Possible claims



Energy  
reduction



Indulgent

### Nutrition facts

**Serving size: 100g**

#### Amount per serving

Energy	128kcal/535kJ
Fat of which saturates	5g 3g
Carbohydrate of which sugars	26g 11g
Protein	4g
Dietary fibre	2g
Salt	0.1g

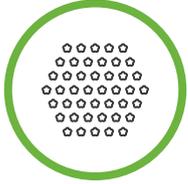
### Ingredients

Water, cream, skimmed milk powder, sweetener (erythritol), glucose syrup, sugar, bulking agent (polydextrose), starch, colouring food (concentrates of carrots and pumpkins), emulsifier (mono- and diglycerides of fatty acids), flavour, stabilisers (tara gum, guar gum), sweetener: enzymatically produced steviol glycosides.

**Create a creamy and delicious,  
reduced-sugar vanilla frozen dessert.**

## Recipe building blocks

Reduced-sugar vanilla frozen dessert



### Texture & structure

- Stabiliser system that improves texture
- Reduce ice crystal growth

**SIMPLISTICA™ ICE 1214**  
Stabiliser system



### Sweetness & build back

- Full functional build back
- Approx. 70% as sweet as sugar
- Zero calories

**ERYSTA® Erythritol**



### Sweetness

- Up to 300 times sweeter than sugar
- Clean sensory profile
- Most sugar-like taste
- Plant based
- Zero calories

**PureCircle™ bio converted Reb M**



Ingredients	
Water	up to 100%
Cream, 32% fat	16%
Skimmed milk powder	9%
<b>ERYSTA® C40 Crystalline</b>	<b>8%</b>
Glucose syrup	6.5%
Granulated sugar	4%
Polydextrose	2.5%
<b>SIMPLISTICA™ ICE 1214 Stabiliser system</b>	<b>1.36%</b>
Colouring food (from carrots and pumpkin)	0.5%
Vanilla flavour	0.09%
<b>PureCircle™ bio converted Reb M</b>	<b>0.054%</b>
<b>TOTAL</b>	<b>100%</b>

Learn how to create the reduced-sugar frozen desserts with indulgent, creamy vanilla taste.

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## Reduced-sugar vegan frozen dessert



### Possible claims



Reduced sugar



Vegan

### Nutrition facts

**Serving size: 100g**

#### Amount per serving

Energy	172kcal/720kJ
Fat	7g
of which saturates	6g
Carbohydrate	24g
of which sugars	16g
Protein	4g
Dietary fibre	0g
Salt	0.2g

### Ingredients

Coconut milk, water, sugar, bulking agent (erythritol), glucose syrup, pea protein, tapioca maltodextrin, starch, emulsifier (mono- and diglycerides of fatty acids), chai masala flavour, stabilisers (tara gum, guar gum).

**Deliver a claim of up to 30% sugar reduction by creating this 'guilt-free' vegan frozen dessert that delivers on-trend textures for improved mouthfeel.**

## Recipe building blocks

Reduced-sugar vegan frozen dessert



### Sweetness & build back

- Full functional build back
- Approx. 70% as sweet as sugar
- Zero calories

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### ERYSTA® Erythritol



### Texture & structure

- Texture stability throughout product shelf-life
- Indulgent and creamy texture
- Better fat mimetic
- Modulate freeze depression point
- Improve emulsion stability

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### SIMPLISTICA™ food system featuring functional native starches, hydrocolloids and emulsifiers

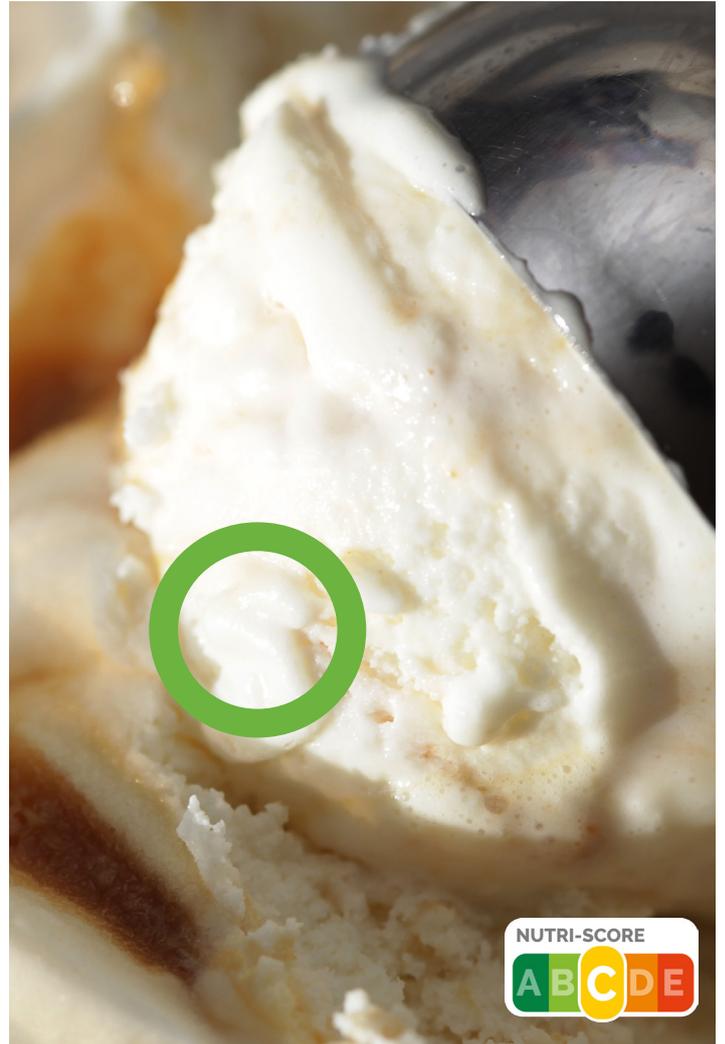


### Protein enrichment

- Source of protein
- Excellent emulsification properties
- Mild flavour profile

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### VITESSENCE® Pulse 1803



Ingredients	
Plant-based milk	65-70%
Sugar/Glucose syrup	15%
<b>ERYSTA® C40 Crystalline</b>	<b>5-8%</b>
<b>VITESSENCE® Pulse 1803</b>	<b>3-5%</b>
<b>SIMPLISTICA™ food system</b>	<b>&lt;2%</b>
Chai masala flavour	<1%
<b>TOTAL</b>	<b>100%</b>

Learn how to create a creamy, reduced-sugar vegan frozen dessert for your consumers.

[Partner with us](#)



**Ingredion.**

## In summary, Ingredion says...

Co-create with Ingredion to find innovative solutions that deliver reduced-sugar claims, without compromising on taste or texture.

**Ingredion's holistic approach to co-creation means we can help you and your consumers break free from sugar and adopt healthier lifestyles.**

Ingredion has the in-depth market insights, technical expertise and portfolio of ingredient solutions to help you develop your next consumer-winning, sugar-reduced dairy or dairy alternative product.

By collaborating with Ingredion, you can get your products to market faster and capitalise on the growing trend for sugar-reduced diets.

[Get in touch today](#)

[Order a tasting kit](#)





## Find out more about Ingredion



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Visit us on our website to find out more:  
[ingredion.com/emea/en-uk/categories/food-ingredients/dairy-dairy-alternatives](https://www.ingredion.com/emea/en-uk/categories/food-ingredients/dairy-dairy-alternatives)

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1. Innova database sugar reduction trends
2. Innova database NPL 2017-2021
3. Innova Market Insights, Dairy in EMEA, 2017-2021, claims: Sugar free, low sugar, reduced sugar, no added sugar, low/no/reduced calories
4. Ingredion's Proprietary Sugar Reduction Insights.
5. <https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>
6. Innova flavour survey 2021

This information is intended to support the efforts of our customers to develop and implement an appropriate labeling strategy for products containing Ingredion ingredients or additives. In all respects, the ultimate decisions on how to identify and label ingredients or additives on food packages remains with our customers. We urge you to carefully review the relevant regulations and to seek appropriate legal counsel as you determine the labeling requirements applicable to your products.