

# Solutions for your ice cream success

Ingredients & multi-ingredient blends, Europe



Cargill,
your partner
for co-creating
growth in
Ice cream

Leverage the knowhow of our passionate ice cream experts... with deep ingredient, application and category knowledge. We're here to support you by developing and testing fully integrated solutions that deliver consumer-pleasing ice cream.





#### **Insights-driven innovation:**

Complement your insights with our research into market trends and consumer needs to develop consumer-pleasing ice cream



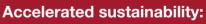
#### **Broad solutions portfolio:**

Leverage our broad Cargill ingredient portfolio and our partnership to deliver fully integrated solutions



#### **Enhanced expertise:**

Tap into reliable, knowledgeable and highly skilled ice cream experts and state-of-the-art facilities that are close at hand



Advance your sustainability goals by leveraging our sustainability actions and commitments across the supply chain

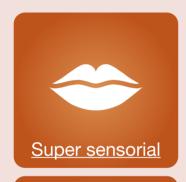
#### **Trusted supplier:**

Scale, grow and thrive thanks to global supply chains and alternative solutions to help manage your costs

## Our solutions are grounded on your market opportunities:

Indulgence is at the heart of everything that we do. It is our starting point for innovation.

We develop our solutions on four pillars of growth that address today's most important market opportunities, consumer needs, and manufacturing requirements.









### Ingredients in this document:

Cocoa powder	<b>→</b>
Cocoa butter & liquor	<b>→</b>
Chocolate 🔀	<b>→</b>
Confectionery alternative to chocolate	<b>)</b> →
Coatings and fillings 🔀	<b>→</b>
Edible oils and fats	<b>→</b>
Sweeteners	<b>→</b>
Texturizers & emulsifiers	<b>→</b>
Functional systems 🔀	<b>→</b>
Plant proteins	<b>→</b>
Fibers	<b>→</b>
Decorations and inclusions	<b>→</b>
Cone & wafer	<b>→</b>







## Super sensorial

The ultimate goal of your ice cream is to please your consumers' senses! Our ingredients help to create richness, taste and an excellent mouthfeel in any type of ice cream base. For example, you can use our solutions to emphasize a premium and indulgent perception using chocolate or chocolate claim compounds. Or you could introduce a texture surprise with a snappy coating, an oozing ripple or a crunchy inclusion. Or what about giving a burst of fruity freshness using our texturizers to deliver a range of textures in water-based ice cream and sauces?

#### Solutions for Super sensorial



#### Decorations & Inclusions

Product	Function
Chocolate decorations & inclusions	<ul><li> Provide taste, texture &amp; visual appeal</li><li> Gives a chocolate claim on pack</li></ul>
Compound decorations	<ul> <li>Provide a wider range of textures compared to chocolate</li> <li>Soft chunks molded in any 3D shape.</li> </ul>
	· Chocolate claim possible



· Provide taste & visual variety and appeal

· Provide textural variety: meringue, marshmallows. nuts...

Colorful possibilities



Cocoa powder	<ul> <li>Provide a rich chocolate taste</li> <li>Enhance the chocolate experience by using dark cocoa powder</li> </ul>
Chocolate	<ul> <li>Provide a rich chocolate taste &amp; mouthfeel: milk, dark, white, caramel</li> <li>Achieve a chocolate claim on pack</li> </ul>
Oils & Fats Blends	<ul> <li>Provide a rich mouthfeel &amp; taste</li> <li>Provide excellent texture properties</li> <li>Determine the melting profile</li> <li>Deliver optimal flavor release</li> </ul>
Full calorie sweeteners	Optimize viscosity, body & mouthfeel     Enhance freshness & flavor
Texturizers	Provide body & mouthfeel – with a neutral taste

eating experiences · Provide body & mouthfeel -

with a neutral taste

Deliver a wide range of texture profiles and

· Deliver a wide range of texture profiles, eating

experience and melting properties

Ice cream bod

**Function** 

**Product** 

INFUSE functional

systems

ingredient

#### Coating, sauces & fillings

	Product	Function
	Coatings and fillings	Enhance sensorial functionalities because of different textures and flavor release options
		· With and without nuts
		Deliver a premium positioning with chocolate claim compounds
		· Introducing a new range of cocoa, hazelnut and peanut alternative solutions
	Cocoa	· Enhance the chocolate flavor (powder, liquor)
	powder, cocoa butter and cocoa liquor	· Provide excellent melt in the mouth texture when frozen (butter)
	Chocolate	· Provide a rich chocolate taste & mouthfeel: milk, dark, white, caramel
		Opportunities to differentiate with single origin, organic, Belgian claim
	Sweeteners	· Brings sweetness
		· Impacts texture in water-based sauces (thickness, stickiness). Keeps them softer while frozen.
	Texturizers	· Ensure a soft or fluid texture & mouthfeel in frozen conditions
		Improves texture and viscosity by stabilizing fillings
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## Health

Just as diverse as your ice cream consumers are, are their diverse expectations when it comes to healthier options. Whether your consumers are seeking out sugar-reduced or fat reduced ice cream, or even looking for protein or fiber fortification – each provides its challenges when it comes to taste and texture. At Cargill, we can supply multiple solutions to achieve one or more health propositions – without compromise. When co-creating healthier ice cream options with you, we look at your complete product formulation to identify the optimal solution for you.



#### Decorations & Inclusions

Product	Function
Chocolate decorations & inclusions	<ul><li>Reduced sugar options (up to 30%)</li><li>Aerated chocolate solutions</li></ul>
Compound decorations & chunks	Reduced sugar options (up to 30%)     Reduction of fat or SAFA in compound decorations
Azyme (wafer from cornstarch)	· Sugar- and gluten-free
Sugar decorations	<ul><li>Sugar-free options</li><li>Reduced sugar options</li></ul>
Other decorations	· Improve Nutri-Score by adding nuts



#### Ice cream body

Product	Function
Sweeteners	Reduce sugar using low/no calorie sweeteners or high intensity sweeteners with a higher relative sweetness     Improve Nutri-Score     Provide a tailored sweetness profile in all types of ice cream
Texturizers	Improve texture, mouthfeel & stability in reduced fat/sugar recipes
INFUSE functional ingredient systems	<ul> <li>Tailored ingredient blends to enable health(ier) ice cream compositions</li> <li>Improve texture, mouthfeel &amp; stability in reduced fat/sugar recipes</li> </ul>
Oils & Fats Blends	<ul> <li>Reduce SAFA by replacing milk fats or regular vegetable fats</li> <li>Improve mouthfeel in lower fat recipes</li> </ul>
Fibers	· Enrichment – nutritional claims possible
	Replace sugar as bulking agent in reduced sugar recipes
	· Improve Nutri-Score
Plant Proteins	<ul><li>Replace dairy-based proteins</li><li>Enrichment</li><li>Improve Nutri-Score</li></ul>

#### Coating, sauces & fillings

Product	Function
Coatings and fillings	Reduced sugar coatings and fillings – full solution
Sweeteners	<ul><li>Reduce sugar &amp; calories</li><li>Improve Nutri-Score</li></ul>
Texturizers	· Replace sugar and increase stability
Cocoa powder and cocoa liquor	Provides flavor intensity, color, mouthfeel and texture
Oils & Fats blends	· Reduce SAFA





## Sustainability

From small family farms to global shipping lanes, Cargill works every day to implement new sustainable practices to reduce our impact on the planet and protect people. Beyond sustainable sourcing, we offer customers joint programs to support their initiatives, as well as to reduce their carbon footprint and inform consumers.

In addition, we offer a variety of label friendly solutions and deep ingredient and application expertise to help you on your plant-based ice cream journey. Some product lines offer a variety of organic solutions as well.

#### Solutions for Sustainability



#### Decorations & Inclusions

Product	Solutions
Chocolate decorations & inclusions	<ul> <li>Sustainable sourcing &amp; certification available: Fairtrade, Rainforest Alliance</li> <li>Dark chocolate: Vegan</li> </ul>
Compound decorations	Sustainable sourcing & certification available:     RSPO palm & non-palm alternatives
Azyme (wafer from cornstarch)	· Label-friendly, short ingredient list



#### Ice cream body

Product	Solutions
Chocolate	<ul> <li>Sustainable sourcing &amp; certification available:         Fairtrade, Rainforest Alliance. The Cargill cocoa promise program.     </li> <li>ExtraVeganZa vegan chocolate</li> <li>Label-friendly options</li> </ul>
Cocoa powder, cocoa butter and cocoa liquor	Label-friendly cocoa powder options (non-alkalized)     Label-friendly cocoa butter & cocoa liquor     Certification: see chocolate
Oils & Fats	<ul> <li>Sustainable sourcing &amp; certification available:     Rainforest Alliance: coconut, RSPO: palm</li> <li>Carbon footprint reduction compared to milk fat</li> <li>Label-friendly options</li> <li>Plant-based alternative to milk fat</li> </ul>
INFUSE functional ingredient systems	Tailored ingredient blends to produce label- friendly or plant-based ice cream
Sweeteners & Texturizers	<ul> <li>Sustainable sourcing &amp; certification available: SAI</li> <li>Stabilizer blends with RSPO grade emulsifiers</li> <li>Label-friendly texturizers</li> </ul>
Plant proteins	<ul> <li>Replace dairy-based proteins</li> <li>Promote soil health and reduces carbon emissions compared to other protein sources: pea protein</li> <li>Sustainable sourcing and SAI certification possible: wheat protein</li> </ul>
Soluble fiber	Benchmarked at Silver Level according to the Farm Sustainability Assessment.

#### Coating, sauces & fillings

Product	Solutions
Coatings and fillings	Introducing a new range of cocoa, hazelnut and peanut alternative solutions
	· Plant-based coatings and ripples
	<ul> <li>Sustainable sourcing &amp; certification of included ingredients: Chocolate claim coatings &amp; fillings</li> </ul>
	<ul> <li>Palm-free products using alternative vegetable fats such as sunflower, rapeseed, coconut, shea or cocoa butter</li> </ul>
Oils & Fats Blends	Sustainable sourcing & certification available:     RSPO palm
	· Label-friendly options & non-palm alternatives
Cocoa & Chocolate	<ul> <li>Sustainable sourcing &amp; certification available:</li> <li>Fairtrade, Rainforest Alliance, Organic. The Cargill Cocoa Promise program</li> </ul>
	· Label-friendly cocoa powder (non-alkalized), cocoa butter & cocoa liquor
Sweeteners & Texturizers	Sustainable sourcing & certification allable: SAI     Label-friendly options
	Cargill



## Efficiency

Amid times of rising costs, you need a supplier who can help you (re)formulate your ice cream without impacting quality, and who can help improve efficiency in your production process. Our global supply chain and price risk programs help protect you from volatility in the ingredients marketplace.



#### Decorations & Inclusions

Product	Function
Compound inclusions	Cost effective alternative to chocolate with a wide range of textures & formats
	· Chocolate claim possible
Other decorations	· Cost-competitive solutions



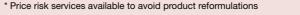
#### Ice cream body

Product	Function
Oils & Fats* Blends	Replace dairy fat to reduce costs     Shelf-life improvement knowhow
Cocoa*	· Rich chocolaty taste without chocolate
Chocolate*	· Cost competitive solutions & reformulation
Sweeteners	· Cost competitive solutions for high sugar prices
Texturizers	<ul> <li>Optimized recipe regarding processing technology</li> <li>Reduce fat percentage to reduce costs</li> </ul>
INFUSE functional ingredient systems	<ul> <li>Tailored ingredient blends with a focus on adapted processability, easy to use, shelf-life improvement and recipe cost reduction</li> <li>Reduce fat percentage to reduce costs</li> </ul>

#### Coating, sauces & fillings

Product	Function	
Oils & Fats	· Cost effective alternative to cocoa butter	
	· Shelf-life improvement knowhow	
Coatings & Fillings	<ul> <li>Adjust the melting point versus chocolate: ideal crystallization and eating properties in frozen conditions</li> </ul>	
	Reduction of costs compared to chocolate due to different fats used replacing cocoa butter	
	· Improved processability	
	Shelf-life improvement: used as a barrier on wafer or cone	
Chocolate	Reduce breaking by optimizing the chocolate plasticity.	
Texturizers	Decrease costs in sauces & fillings by reducing cocoa butter	
	· Improve processability	
	· Prevent oil separation	
	· Shelf-life improvement	







#### Cocoa powder

The innovative cocoa powders from our leading Gerkens® brand guarantee to deliver high quality, consistently vivid color and delicious taste anytime, anywhere. This extensive range of cocoa powders always features one that perfectly suits your needs. Or work with our cocoa engineers to develop one that is tailored to your specific ice cream application. In this we will work together to achieve a mouthwatering chocolate taste, rounded mouthfeel and vivid color that will keep your consumers coming back for more.

#### The GS cocoa powder range

The Gerkens® cocoa engineers have developed the Gerkens® GS range. This premium selection of cocoa powders with an attractive red-brown appearance that help you keep a "clean" ingredient list.



On the inside: the Gerkens® GS range provides an appetizing, intense dark appearance.

#### Gerkens® cocoa powders

Our specialty products	Features & benefits
Organic	· Range of premium organic cocoa
	· Natural to high alkalized
	· Low fat to high fat
Origin	· Guaranteed provenance and traceability
	· Ghana
	· Ivory Coast
Label-friendly	<ul> <li>Tempting dark cocoa powders in increasing darkness</li> </ul>
	· Alkalization below 7%
High fat	Fat-rich cocoa powder perfect for ice cream
	· Chocolatey taste and rounder mouthfeel
Custom solutions	· Tailored by our Cocoa Engineers for your specific ice cream application.
	· Minimum quantity applies.
Sustainable	· Rainforest Alliance or Fairtrade
solutions	<ul> <li>Promise cocoa: Cargill cocoa promise: our advanced solution to make a direct impact in cocoa communities; Rainforest Alliance, Fairtrade or Promise verified</li> </ul>
	<ul> <li>Promise projects: Create additional impact and tailor your actions to match your brand values</li> </ul>





### Cocoa butter & liquor

Cocoa butter and cocoa liquor are fundamental elements of chocolate. The right taste, color, texture, and snap - these are all achieved through working with the right base ingredients! They can both be used for the creation of your signature coatings, fillings, chocolates, inclusions or decorations.

#### **Cocoa butter**

Our specialty products	Features & benefits	
Sunshine	· Traditional deodorized cocoa butter product.	
	· A well-respected all-rounder	
Brilliant	· A deodorized cocoa butter.	
	· Slightly lighter in color compared to Sunshine	
	· Neutral taste	
Pearl	· Refined cocoa butter specialty products	
	· Neutral taste	
	<ul> <li>Light color – suitable for white and colored applications</li> </ul>	
Taste +	<ul> <li>Non-deodorized or partially deodorized cocoa butter</li> </ul>	
	<ul> <li>Taste profile range from light to strong cocoa flavor - developed to customer needs.</li> </ul>	
	<ul> <li>For chocolate recipes that need extra body – or taste sensation.</li> </ul>	

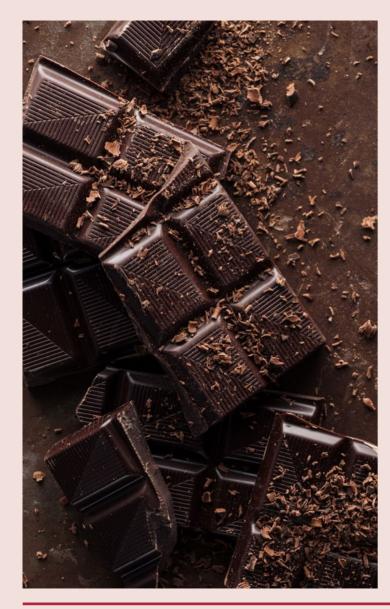
#### **Cocoa liquor**

Our specialty

products	uncy i		
Origin		An authentic, unique origin taste, and aroma's, from origin countries such as Ghana, Madagascar and Ecuador	
		With organic certification available (EU, NOP, SUI)	
Signature	•	Customized taste, with improved processing characteristics, tailored to growing consumer demands	
Classic		Perfectly suited for all-around applications  Complemented by consistent high quality cocoa liquor.	
Sustaina solutions Basic certi Europe & A origins	fication .	Certified Cocoa: Fairtrade or Rainforest Alliance Cargill cocoa promise: our advanced solution to make a direct impact in cocoa communities; Rainforest Alliance, Fairtrade or Promise verified	

Features & benefits





#### Chocolate

Chocolate is an important component in ice cream to create indulgence and premiumness. Cargill offers a variety of standard and specialty chocolates for sensory excitement and on-trend claims.

## 53% of today's consumers are not getting what they want from caramel white chocolate...until now!

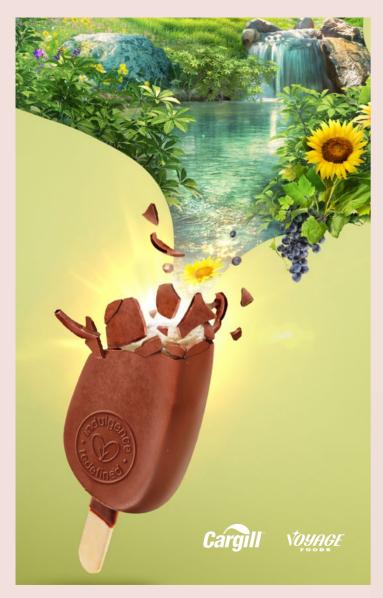
Our chocolate experts have embarked on a sensory adventure in search of the perfect blends for truly premium indulgence. These efforts have resulted in the **Cargill Caramel Selection**, a range of irresistible caramel sensorials made with uniquely blended ingredients and designed to deliver indulgent flavors like never before. These four types of caramel sensorials appeal to a broad range of consumer preferences. They include new flavors and unlock new clusters that go beyond what is currently available on the market. In short, they're the new gold standard for each consumer group out there.



Products	Function	
Standard	· Milk, Dark, White chocolate	
Milk, Dark, White	· +4,500 SKUs	
	· Including Cargill's Signature range – off the shelf	
	· Liquid & solid solutions	
Single Origin	Made from high-quality cocoa beans sourced from just one country	
	<ul> <li>Ecuador, Columbia, Caribbean, Dominican Republic, Peru, Papua New Guinea, Madagascar, DR Congo, Ghana and Ivory Coast</li> </ul>	
	· Cocoa content: minimum 70%	
Caramel Selection	· White chocolate with caramelized ingredients	
	· Label-friendly - flavored with natural caramelized ingredients	
	<ul> <li>4 color &amp; flavor profiles – matching selected consumer profiles: Sweet Dream, Honeycomb, Butter-Fusion and Bold caramel</li> </ul>	
Organic	· Organic claim chocolate	
	Sourced from organic origins across the globe to limit local influences on supply stability	
	Blended from different origins to ensure consistent flavor profiles and continuous supply	
ExtraVeganZa Vegan chocolate	Sensorily outstanding vegan chocolate range with lighter color profile and vegan claim	
decorations &	· Based on sunflower syrup or rice syrup	
inclusions	Available from 'suitable for vegan' to 'vegan with no detectable levels of dairy'	

Our chocolate ranges are available in galets, buttons, solid blocks and liquid.





## Confectionery alternative to chocolate

More than 50% of consumers demand "more sustainable" foods with a "reduced carbon footprint" into their diets. Addressing consumer's as well as Cargill's customers' demands regarding sustainability, scalability, and price volatility, Cargill™ Indulgence Redefined is launching, in partnership with Voyage Foods, a delicious innovative range of more sustainable offerings that provide a great sensorial experience.

The Cargill™ Indulgence Redefined product range is now starting with cocoa, hazelnut and peanut alternative solutions for bakery, chocolate confectionery, ice-cream and cereals, with more to come!



#### **Indulgence Redefined**

Our unique "Confectionery alternative to chocolate" is inspired by nature and made from sunflower and grape seeds, offering several benefits.

- A Planet- Friendly solution with
  - Up to a 61% reduction in carbon footprint. \* \*\*
  - Up to 90% lower land-use-related impacts. \* \*\*
  - Up to 95% lower water footprint than conventional chocolate. \* \*\*
- A great sensorial experience; the taste consumers love, without the cocoa!
- A vegan product, label-friendly, and produced with no nut or dairy allergens used in the recipe formulation.

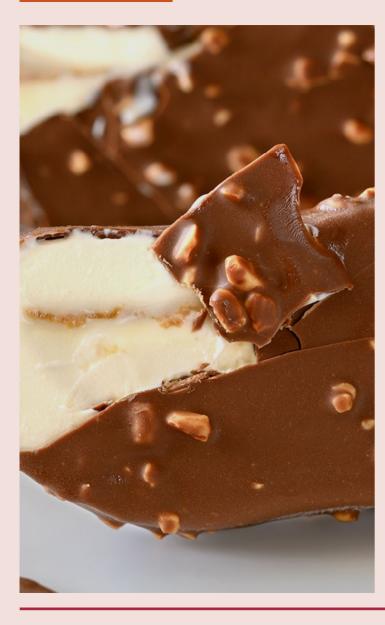


 ${\it Cargill.com/confectionery-alternative-to-chocolate}$ 

\*Results presented indicate the upper bounds of reductions across the alternative products assessed when compared to conventional chocolate. For conventional chocolate products a representative commercial product with similar manufacturing conditions are determined. This is not intended to represent the totality of the chocolate industry but rather a realistic market average for indicative comparative assertations.

\*\*The underlying LCA study incorporates the European Commission-recommended PEF impact assessment method and is 3rd party panel review for ISO 14040:2006 and ISO 14044:2006 conformance. Ex-ante results are ISO 14044 certified, iterations in supply-chain configurations will be accounted for. Report available at https://voyagefoods.com/ our-impact





## Coatings & fillings

Re-shaping your recipe to perfection! The Cargill portfolio of coatings & fillings is there to meet all your requirements. What makes us truly unique is the effective cross collaboration between our category expertise and our ingredient knowhow on cocoa & chocolate, edible oils and starches, sweeteners & texturizers. The compounds & ripples for your ice cream are developed to work well in frozen conditions and offer more flexibility and costefficiency compared to chocolate.



Products	Function	
Standard  Dark, milk & white chocolate  With hazelnut paste	<ul> <li>For enrobing, dipping, spraycoating, drizzling and chunks</li> <li>Rich, indulgent flavor &amp; mouthfeel</li> <li>Tailored to your texture needs</li> <li>As a barrier to moisture in cones, on wafers &amp; cookies</li> </ul>	
Chocolate compounds	<ul><li>Compounds that contain a % of chocolate in the recipe</li><li>Allowing "chocolate" claim on packaging</li></ul>	
Colors & flavors	Compounds with (natural) flavorings     Compounds with (natural) colors	
Without nuts	Segregated line for compound without nuts, separate from a line for products containing hazelnut	
Vegan	<ul> <li>Recipes suitable for vegan, based on ingredients used</li> <li>Cocoa, hazelnut and peanut alternative solutions</li> <li>Product will still need to have a "may contain MILK" disclaimer</li> </ul>	
Palm-free	Compounds without palm, using vegetable fats such as sunflower, rapeseed, coconut, shea or cocoa butter	
Sugar reduced	Sugar reduction and Nutri-Score improvement     Replace sugars with ingredients from Cargill's Sweeteners & Texturizers such as starches, maltodextrins, spray-dried glucose, fibers, protein and polyols	
Enriched	Reach nutritional targets or claim by fortification with fibers, proteins or minerals claims     Cargill ingredients, including soluble fibers and pea proteins	
Confectionery compounds	<ul><li>Compounds based on cocoa butter alternative</li><li>Similar functionalities with lower costs</li></ul>	





## Edible oils and fats

That perfect melting profile and creamy mouthfeel delivers on the sensory desires of your consumers in ice cream. Cargill's vegetable oils & fats solutions enable sustainable, reliable and cost-effective milk fat replacement across the dairy category, without compromise on taste or texture. Our comprehensive range of sustainably sourced fats, laurics, specialties, and tailor-made blends deliver excellent performance and flavor, so you can achieve the ideal mouthfeel, structure and nutrition profile in hybrid dairy and plant-based ice cream.

### Tailored solutions that enable plant-based richness

Changing from milk fat to vegetable oils & fats to create plant-based ice cream that delivers on sensory appeal is easier said than done. Finding that perfect combination is key to enabling an optimal texture, organoleptic properties and an improved nutritional profile. At Cargill, we offer formulation experience to understand how the choice of the alternative plant-based protein is going to impact the interaction with all other ingredients.

Products	Function	
Lauric	· Fully hydrogenated available	
Coconut, Palm	· Ensure high oxidative stability for long shelf life	
kernel	Bring excellent sensorial properties and flavor release	
	· Bright white color experience	
	· Sustainable sourcing & certification: Rainforest Alliance: coconut & RSPO: palm kernel	
Fats	· Provide excellent texture properties	
Palm-based	· Ensure high oxidative stability for long shelf life	
solutions	· Cost effective solution	
	· Sustainable sourcing & certification: RSPO	
Tailored blends	· Provide excellent texture properties	
Palm alternatives based on cocoa butter and/or liquid oils	· Reduced SAFA	
	<ul> <li>Sustainable sourcing &amp; certification:</li> <li>Rainforest Alliance</li> </ul>	





#### Sweeteners

Cargill offers one of the broadest sweetness portfolios, ranging from full- to no-calorie options, and high intensity sweeteners to offer choice to customers and consumers. Whether you're creating a new, full sugar product or (re-) formulating for balanced nutrition, we offer a complete toolbox of solutions for sweet success.

#### Product Type/Name Features & Benefits

#### High-intensity sweeteners1

0 kcal/g, Enables sugar and calorie reduction/ replacement

#### Steviol glycosides from stevia

Truvia®

- Can be used in synergy with bulking agents such as soluble fibers which can help to bring back bulk and mouthfeel when sugar is reduced
- · High Purity Reb A
- · Cost-effective sugar reduction
- · Clean, sweet taste
- · Typically used in sugar-reduced sauces

ViaTech®

- Proprietary, synergistic blends of Steviol Glycosides designed for optimal taste and sweetness
- · Clean taste allows for deeper sugar reduction
- · Reduces bitterness and licorice off-notes

#### Steviol glycosides from fermentation

EverSweet® 2

- Advanced fermentation techniques bring to life stevia's sweetest elements – steviol glycosides Reb M and Reb D
- Sugar reduction up to 8% SEV, with further reduction possible in combination with flavor modulators or other flavor enhancers like erythritol

#### **Stevia**

Cargill's agricultural stevia program has been benchmarked at Silver level by Farm Sustainability Assessment (FSA) 3.0<sup>3</sup> – becoming the first stevia producer in the industry with our entire grower network evaluated that achieved this distinction.



Cargill.com/sustainability/sustainable-stevia







A life cycle assessment (LCA) shows that EverSweet® advanced fermentation techniques result in improved environmental performance in key metrics such as carbon footprint, water use and land use impact compared to production from leaf or bioconversion, or traditional sugar.<sup>4</sup>





- 1 Steviol glycosides and polyols are permitted in most energy or sugars reduced foods under "quantum satis" or under conditions of use. Foods with over 10% polyol content must carry a label "Excessive consumption may cause laxative effects" (EU Reg. 1333/2008 on food additives)
- 2 Product of Avansya, a joint venture between Cargill and dsm-firmenich. EverSweet® is already authorized for sale in the UK. It has also received a positive safety opinion from EFSA. Authorization for placing it on the market in the EU is expected at the beginning of 2025.
- 3 FSA is a standardized reference developed by SAI Platform, a food-industry organization dedicated to advancing sustainable agriculture in the food chain. It's designed to help producers assess their sustainable practices and support manufacturers in sourcing sustainably grown products. ISO/TS 19657:2017 (https://www.iso.org/news/ref2254.html)
- 4 LCA results have undergone a ISO14040/44 panel review, underlying report available upon request.



#### Product type/name Features & Benefits

Maltitol	· Similar sweetness and behavior to sucrose
Maltidex®	· 2,4 kcal/g
Sorbitol	· Milder relative sweetness
C☆Sorbidex®	· Cost-effective
	· 2,4 kcal/g
Erythritol	· Zero calories
Zerose®	· Sweetness and taste profile close to sugar
	· Good digestive tolerance
	· Synergistic with high-intensity sweeteners, masks off-flavors
	· High freezing point depression
Full-calorie sweeteners 4 kcal/g, E	Bulk sweeteners
Glucose syrup	· Low to moderate relative sweetness
C☆Sweet®	· Medium to high viscosity providing body and mouthfeel
	· Helps to adjust sugar recrystallization
Glucose-fructose syrup	· Moderate to high relative sweetness
C☆TruSweet®	· Cost-effective sugar replacement
	· Controlled freezing point depression
Fructose syrup	· High relative sweetness
C☆TruSweet® 01795	· High freezing point depression
	· Enhances freshness and boosts fruity flavors
Dextrose	· Higher relative sweetness, typical sweet taste
C☆Dex®	· Quick energy release
	· Good solubility
	· Flavor enhancement
	· Monohydrate or anhydrous powder, variety of particle size distribution



<sup>1</sup> Steviol glycosides and polyols are permitted in most energy or sugars reduced foods under "quantum satis" or under conditions of use. Foods with over 10% polyol content must carry a label "Excessive consumption may cause laxative effects" (EU Reg. 1333/2008 on food additives)



## Texturizers & emulisfiers

Second only to taste is sensory enjoyment. At Cargill, we couple our texture and emulsification solutions with our in-depth application and technical expertise, to address your most challenging formulation needs. Whether you're rebuilding body and mouthfeel while reducing sugars or designing palate-pleasing textures, we offer a complete toolbox of solutions for indulgent success.

#### Product type/name Features & Benefits

#### Lecithin (soy, sunflower, rapeseed)

#### Lecithin Fluid Lecithin

- · Plant-derived, label-friendly emulsifier
- · Emulsifies and stabilizes ingredients
- · Prevents oil separations in fillings
- · Used in chocolate, coatings & fillings

#### Hydrocolloids: Carrageenan & Seaweed Powder

#### Carrageenan

Deoiled Lecithin

- Suspends fat, protein and cocoa particles during ageing step of ice cream manufacturing
- · Improves mouthfeel

#### Seaweed powder WavePure®

- Brings body and mouthfeel in dairy and plant based dairy alternative applications.
- · Label-friendly

#### Product type/name

#### **Features & Benefits**

#### Food starch: maize, waxy maize, tapioca

#### Functional, labelfriendly starch SimPure®

- · Label-friendly
- · Smooth, non-gelling texture bringing body and mouthfeel
- · Great cold storage stability
- Suitable for use in fat- & water-based sauces and fillings

#### **Native starch**

C☆GEL™ C☆GEL™ LM C☆CREAMGEL™

- · Label-friendly & familiar texturizer
- · Cost-effective
- General purpose thickeners for use in cone or wafer recipes

#### **Modified starch**

C☆Tex® C☆PolarTex® C☆CreamTex® C☆Set® C☆Stretch®

- · Wide range of textures
- · Shelf-life stability
- · Water-binding
- · Acid, heat & shear tolerance
- Suitable for use in fat- & water-based sauces and fillings

#### **Dried glucose & Maltodextrin**

C☆Dry® GL C☆Dry® MD C☆Dry® A C☆NutriDry®

- · Low relative sweetness
- Serves as a bulking agent, bringing body and mouthfeel
- · Neutral taste
- Delivers readily available carbohydrates
- Easily dilutable, it is quick and easy to process





## INFUSE by Cargill™ Functional systems

INFUSE offers fully customizable on-trend solutions to help fast forward your ice cream body development.

The INFUSE ice cream portfolio range addresses market trends for label-friendly, super sensorial, nutritionally balanced and cost-effective options, while solving your specific functional challenges.

Explore our building blocks of innovation for tailoring the exact solution to meet your needs.



Cargill.com/food-beverage/emea/infuse-by-cargill/dairy-and-ice-cream-expertise



#### Product type / name

#### Features & Benefits

#### LYGOMME FM 3000 series

Ice cream bulk applications



- · Low emulsifier strength
- · Short meltdown delay
- · Moderate shelf life
- · Easy dispersibility \*

#### LYGOMME FM 4000 series

Ice-cream bulk and premium extruded products

- · High emulsifier strength, extruding capacity, shape retention
- Long meltdown delay
- Long shelf-life
- Easy dispersibility \*

#### LYGOMME FM 8000 and 9000 series

Ice-cream premium extruded products

- · Medium emulsifier strength, extruding capacity, shape retention
- · Medium meltdown delay
- Medium shelf-life
- · Easy dispersibility \*

#### **LYGOMME FZ** series

Sherbet, Sorbet and candy ice

- · Texture creamy to cold and fresh
- · Strong to low foaming



<sup>\*</sup> Products are integrated powders, the emulsifier part is coating the hydrocolloids components

<sup>\*\*</sup> To be used in the white mass



#### Plant proteins

Today's consumers are increasingly looking for proteinenriched options, as well as plant-based alternatives to their favorite ice cream. Plant proteins help to replace dairy proteins in vegan ice cream and provide a more sustainable solution, when compared to dairy-based ice cream. They can also be used to fortify ice cream with extra proteins to benefit the nutritional properties of the ice cream or improve the Nutri-Score.

#### Product name(s) Features & Benefits

#### Pea proteins RadiPure® S Puris™ Pea\* 870

- Protein enrichment (min. 80% protein content) in white mass
- · Dairy protein replacement
- · Texture variety
- · Good solubility and stability at different pH
- · Mild flavor
- · Great emulsification and whipping
- Sustainable, promotes soil health and reduces carbon emissions

#### Wheat Proteins Gluvital® Prowliz®

- Protein enrichment in cone or wafer (min. 75% protein content)
- · Competitive cost-in-use
- · Highly digestible
- · Unique visco-elastic properties
- · Neutral flavor profile
- · Sustainably sourced

#### Plant protein for plantbased dairy alternatives

Watch our video!









#### Fibers

Many consumers struggle to reach the daily recommend fiber intake levels. That is why Cargill is offering fortification options that can support consumers to close the fiber gap, but that can also offer functional benefits on top.

#### **Introducing CitriPure®** –

a label-friendly citrus fiber obtained without chemical modification, providing nutritional properties and great texture enhancement.

#### CitriPure® benefits

- Label-friendly: Nature-derived, simple and familiar ingredient based on citrus peel.
- Nutritional boost: Fiber enrichment thanks to its intrinsic balanced mix of 40% soluble fiber and 60% insoluble fiber, enabling Nutri-Score improvement.
- No chemical modification: Simply fully dried peel (nothing added, nothing taken away) produced with only water and energy. All the natural components of the citrus peel are kept intact.



Cargill.com/food-beverage/emea/texturizers/citrus-fiber

roduct type/name	Features & Benefits	
<b>citrus Fiber</b> itriPure®	<ul> <li>Supports fiber enrichment thanks to its intrinsic balanced mix of 40% soluble fiber and 60% insoluble fiber, enabling Nutri- score improvement</li> </ul>	
	· No chemical modification	
soluble corn and wheat fiber argill™ soluble fiber	<ul> <li>Supports fiber enrichment due to high fiber content, enabling sugar reduction and/or Nutri-Score improvement</li> </ul>	
	<ul> <li>Made using exclusively licensed micro- reactor technology developed in partnership with Germany's Karlsruhe Institute for Technology</li> </ul>	
	· Low color and off-taste	
	· Can offer improved stability, easy handling, and scalability	
	· Available in both powder and liquid forms	
ectin	· Label-friendly thickening and gelling agent	
niPECTINE®	· Stabilizes proteins in acidic conditions	
	Pectin is use to provide a viscous thick texture in the sauce & ripple	
	· Stable under acid conditions, even at high	

temperatures





## Decorations & Inclusions

Consumers are looking for elevated experiences that go beyond taste alone and which engage all the senses.

To help you deliver to their wishes for novelty and experimentation, Cargill offers a broad, expertly crafted portfolio of decorations and inclusions to create a distinctive visual and textural allure for your products. In this way we are helping to set the stage for what lies ahead for your consumers: an extraordinary sensorial experience.

Discover the transformative power of Decorations and Inclusions!

Cargill.com/coatings-and-fillings





#### Ice cream cone & wafer

When it comes to the production of your ice cream cones, wafers or any other bakery part of your ice cream product, you have a very different set of technical requirements. Fortunately, our bakery expertise, ingredients and solutions are there to take your ice cream product to the next level. Below is a look into our portfolio to support your wafers & cones needs.



Products	Function
Oils & Fats Blends	<ul> <li>Coconut, palm &amp; palm kernel fats or blends to be used for a crispy texture and neutral taste.</li> </ul>
Cocoa	Chocolate flavored cones & wafers in a range of color and flavor intensities
	· Label-friendly options
Sweeteners	· Sugar reduction
High intensity sweeteners, no/low calorie sweeteners,	· Texture improvement
full calorie bulk sweeteners	· Cost optimization
Texturizers	· General purpose thickener
Starch (native/modified)	· Crispness
	· Label-friendly options
Dried Glucose	· Provides cost effective bulking
& Maltodextrin	· Can support low sugar formulation
	· Gives mouthfeel enhancement
Emulsifiers	· Provides good emulsifying and stabilizing properties
Lecithin	· Plant-based & label-friendly emulsifier

Cargill

Cargill's Food Solutions





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