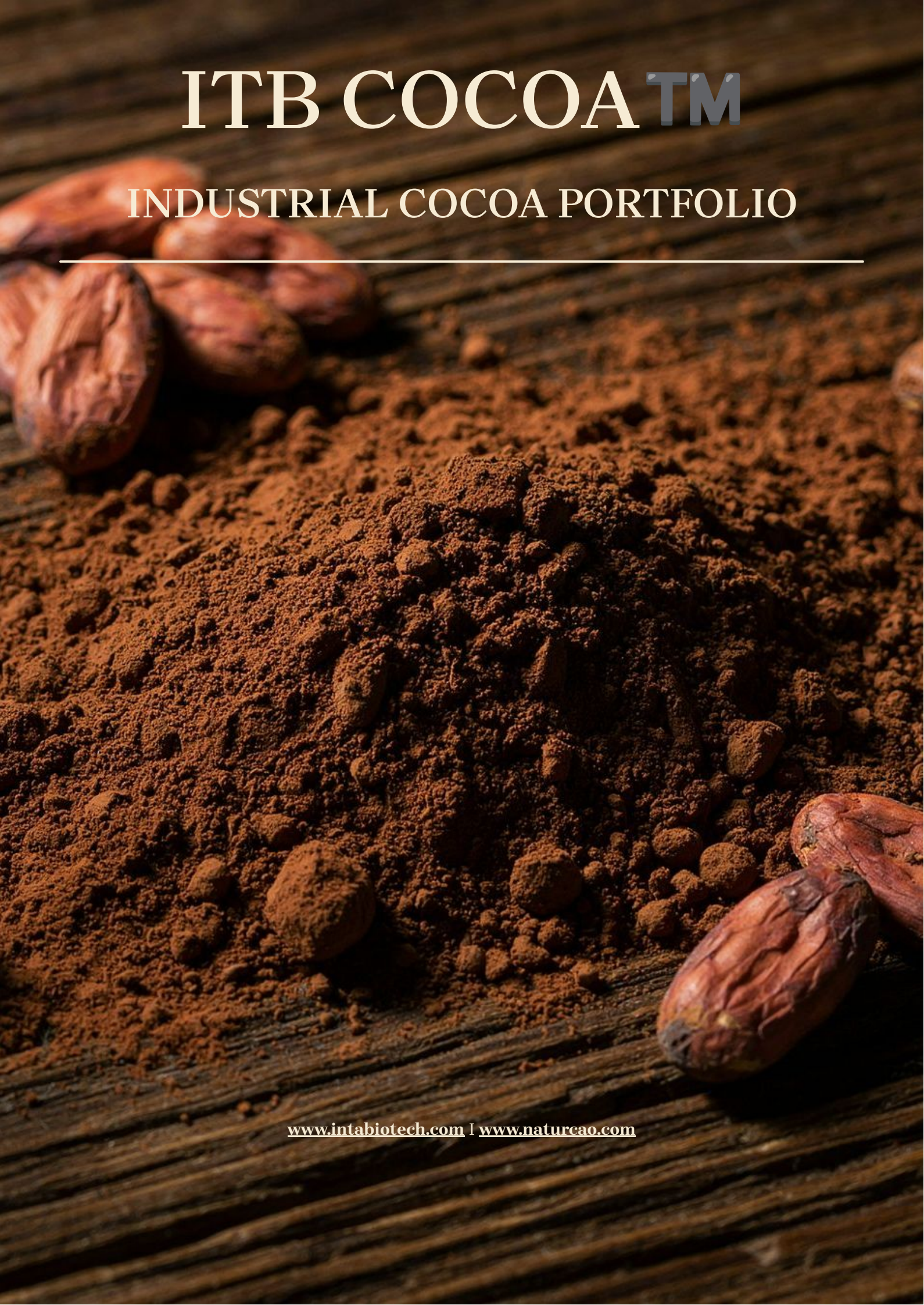

ITB COCOA TM

INDUSTRIAL COCOA PORTFOLIO

www.intabiotech.com I www.naturcao.com

ITB COCOA™

INDUSTRIAL COCOA PORTFOLIO

Cocoa ingredients designed for industrial performance

Natural Powders

Characteristic acidity, authentic aroma, and traditional cocoa flavor profile

Alkalized Powders

Intense color, reduced acidity, and sensory smoothness through Dutch process

Cocoa Derivatives

Beans, nibs, liquor, natural butter, and deodorized cocoa butter

INTABIOTECH offers a complete portfolio of cocoa ingredients developed for industrial applications that demand consistency, functionality, sensory performance, and supply flexibility. The **ITB COCOA™** portfolio encompasses natural cocoa powders, alkalized cocoa powders, and key cocoa derivatives for use in baking, confectionery, beverages, dairy, desserts, fillings, coatings, cereal products, nutritional formulations, and general food manufacturing.

01

Cocoa Butter Content

From ultra low-fat to 20–22% lipid content

02

Color Intensity

From natural brown to highly alkalized deep black

03

Flavor Profile and pH

From natural acidity to softened and rounded profiles

04

Formulation Goals

Solubility, dispersibility, cost, and final product positioning

SECTION A

NATURAL COCOA POWDER

Natural cocoa powders preserve the characteristic acidity, aroma, and flavor profile of cocoa processed in the traditional way. Their production respects the volatile compounds responsible for the fruity and roasted notes that define the organoleptic identity of cocoa without alkalizing intervention, resulting in a genuine sensory experience that is easily recognized by the end consumer.

They are especially suited for applications where a **clean, authentic, and recognizable cocoa character** is required, as well as for formulations in which the natural acidity of cocoa contributes positively to the overall sensory balance. This inherent acidity can act synergistically with chemical leavening agents in bakery systems, enhance the perception of freshness in beverages, and provide contrast in complex dairy desserts.

> Natural cocoa is not simply unmodified raw material: it is a declaration of authenticity in formulation. When the finished product needs to communicate origin, tradition, and purity, natural powder is the most direct technical tool.

The selection among the different formats in the natural range — standard, premium, and ultra-low fat — allows manufacturers to tailor the cost profile, sensory intensity, and technological behavior of the ingredient to the specific requirements of each formulation and product positioning.

NATURAL · STANDARD

ITB COCOA™ NATURAL 10–12%

Standard

Product Profile

A versatile natural cocoa powder with approximately **10–12% cocoa butter**, designed for a wide range of industrial food applications. It delivers a traditional cocoa profile combining characteristic acidity, toasted notes, and balanced bitterness. Its batch-to-batch consistency and broad compatibility with food systems make it a go-to solution for large-scale production.

This powder offers excellent performance in both wet and dry systems, maintaining color stability and aromatic profile throughout the industrial process.

Key Advantages

Authentic Flavor

Balanced and recognizable natural cocoa taste

Industrial Versatility

Compatible with multiple food systems

Competitive Profile

Optimized for high-volume production

Sensory Consistency

Uniform color and sensory characteristics

Recommended Applications

Bakery

Cookies, sponge cakes, mixes, muffins

Cereals

Breakfast cereals, granola, extruded snacks

Dairy

Desserts, ice cream, creams

Beverages

Chocolate drinks, instant mixes, nutritional beverages

Fillings

Creams, coatings, industrial fillings

NATURAL · PREMIUM

ITB COCOA™ NATURAL 10–12%

Premium

A natural cocoa powder carefully selected and developed for applications that require a more refined aromatic profile and greater sensory complexity. The Premium version is especially suited when cocoa flavor represents a central part of the finished product's identity, serving as the differentiating ingredient that justifies the product's value positioning to the consumer.

Its selection and quality control process ensures greater consistency in superior sensory attributes, with a more defined expression of roasted notes, enhanced aromatic persistence, and a natural acidity that is better integrated into the overall profile. It is the appropriate choice for manufacturers seeking to elevate the perceived quality of their cocoa formulations without relying on compound ingredients or added flavorings.

Clean cocoa aroma

Genuine and recognizable expression of natural cocoa on the nose and palate

Well-defined roasted notes

Controlled roasted character that adds depth to the sensory profile

Controlled bitterness

Precise balance that avoids the negative perception of excessive bitterness

Lingering finish

Extended aftertaste that reinforces the product's perception of quality

Recommended Applications

Premium baked goods · Fine cookies · Chocolate-flavored dairy products · Desserts · Gourmet beverages · Premium cereal products · Nutritional formulations · High-value confectionery applications

NATURAL · HIGH FAT

ITB COCOA™ NATURAL 16%

A natural cocoa powder with a higher cocoa butter content that offers greater richness and roundness compared to conventional low-fat cocoa powders. The additional fat content contributes to a fuller mouthfeel and improves flavor release in applications where sensory richness is especially important.

This format is particularly valuable in premium applications where cocoa does not simply act as a flavoring agent but as a structuring ingredient that defines the texture and body of the finished product. The additional cocoa butter slows the release of volatile aroma compounds, generating a more prolonged and complex sensory experience.

Greater Richness

A sensation of more body and richness in the mouth

Persistence

Prolonged flavor and lasting cocoa aftertaste

Natural

Whole natural cocoa character without modification

Recommended Applications

- Premium bakery
- Chocolate fillings
- Dairy desserts
- Ice cream
- Creams and spreads
- High-quality beverages
- Nutritional foods
- Specialty confectionery

SPECIALTY

ITB COCOA™ ULTRA-LOW-FAT

Advanced cocoa functionality with minimal cocoa butter contribution

An ultra-low-fat cocoa solution developed for applications that require the flavor, color, and functionality of cocoa while minimizing cocoa butter contribution to the formulation. This specialized ingredient opens up exciting possibilities in products where manufacturers need to optimize nutritional composition, processing behavior, or formulation economics.

Its extremely reduced lipid profile makes it a particularly valuable technical tool in powder systems, dry blends, and functional formulations where precise control of fat content is a critical requirement. Its dispersion behavior and compatibility with protein matrices also make it especially interesting for the sports nutrition and functional foods segment.

Formulation Flexibility

Maximum freedom to adjust the nutritional profile of the final product without sacrificing cocoa color and flavor

Flavor Delivery with Low Lipid Impact

Delivers the organoleptic character of cocoa with minimal lipid contribution to the nutritional declaration

Nutritional Optimization Applications

Ideal for low-fat products, high-protein formulas, dry blends, and specialized supplements

Recommended Applications

Protein formulations · Functional beverages · Powdered drinks · Nutritional supplements · Low-fat desserts · Dairy applications · Bakery preparations · Dry blends

SECTION B

ALKALIZED COCOA POWDER

Alkalization—traditionally known as the **Dutch process**—modifies the natural acidity, color, and flavor profile of cocoa. Through controlled alkalization, cocoa can develop darker colors, reduced acidity, greater smoothness, and different sensory characteristics depending on the intensity of the processing applied.

This process, developed in the 19th century, remains one of the most important technological tools in the cocoa industry today. The neutralization of the organic acids present in natural cocoa not only transforms the pH profile—generally from 5.0–5.5 up to 6.5–8.0 depending on the degree of alkalization—but also generates additional Maillard reactions that modify the aromatic composition and produce the characteristic dark tones and rounder flavor profile associated with alkalized cocoa.

Light Alkalization

pH 6.5–7.0 · Medium brown color · Slightly reduced acidity

1

Medium Alkalization

pH 7.0–7.5 · Dark brown color · Rounded flavor

2

Intense Alkalization

pH 7.5–8.0 · Very dark color · Smooth and velvety profile

3

Extreme Alkalization

pH >8.0 · Intense black color · Minimal residual acidity

4

The alkalized portfolio of ITB COCOA™ allows manufacturers to select cocoa powders according to the specific requirements of the finished product, ranging from standard solutions to high-alkalization specialties for applications requiring extreme visual impact.

ALKALIZED · STANDARD

ITB COCOA™ ALKALIZED 10–12%

Standard

Product Description

A highly versatile alkalized cocoa powder with approximately **10–12% cocoa butter**. Designed for industrial applications requiring a balanced combination of color, cocoa flavor, and processing consistency. It is one of the most in-demand formats in global food manufacturing due to its balance between technical performance and formulation economy.

Typical Characteristics

- Medium to dark brown color
- Reduced natural cocoa acidity
- Rounded cocoa flavor
- Controlled bitterness
- Good dispersibility
- Excellent industrial versatility

Recommended Applications

Bakery

Crackers, cookies, sponge cakes, muffins

Dairy

Ice cream, desserts, creams

Beverages

Powders, chocolate drinks, instant mixes

Cereals

Fillings, creams, and compound systems

ALKALIZED · PREMIUM

ITB COCOA™ ALKALIZED 10–12%

Premium

A premium alkalized cocoa powder that delivers greater sensory depth and a carefully controlled color profile. Designed for formulations where manufacturers seek a more sophisticated cocoa character while maintaining the technical advantages of a low-fat alkalized powder. The combination of precise control in the alkalization process and careful raw material selection significantly elevates the sensory potential of this ingredient compared to standard versions.

Deep Cocoa Aroma

Intense aromatic expression with notes of dark cocoa, toasted character, and a subtle fruity background

Smooth and Well-Rounded Flavor

Velvety sensory profile with well-integrated bitterness and no harsh notes

Reduced Acidity

Controlled pH for greater organoleptic smoothness and improved compatibility in neutral systems

Stable Color Profile

Uniform dark brown color with high batch-to-batch reproducibility

Recommended Applications

Premium baked goods · High-end cookies · Chocolate-flavored dairy products · Ice cream · Premium desserts · Beverage systems · Fillings · Cereal applications

ALKALIZED · MEDIUM FAT

ITB COCOA™ ALKALIZED 16%

Balanced Alkalinization

A medium-fat alkalized cocoa powder that combines the sensory richness associated with higher cocoa butter content with the smoother profile produced by alkalinization. This format represents a highly valued technical balance point in premium applications that require both chromatic impact and organoleptic richness. Different alkalinization profiles can be selected based on the desired color, flavor, and pH characteristics, allowing precise adaptation to the requirements of each specific formulation.

16%	7.0+	3x
Cocoa butter	**Controlled pH**	**Available profiles**
Typical content for greater body and richness in the mouth	Balanced alkalinization for effective acidity reduction	Light, medium, and intense alkalinization per specification

Recommended Applications

Bakery · Chocolate fillings · Creams · Dairy products · Ice cream · Beverages · Premium desserts · Special food formulations.

ALKALIZED · HIGH FAT · STANDARD

ITB COCOA™ ALKALIZED 20–22%

Standard

An alkalized high-fat cocoa powder with approximately **20–22% cocoa butter**. Its higher natural cocoa fat content provides greater richness, body, and sensory intensity. It is especially well-suited for formulations where cocoa is expected to make a substantial contribution to the texture and flavor of the finished product.

The combination of high fat content and controlled alkalization produces an exceptionally round and enveloping sensory profile, ideal for premium products where the perception of quality and indulgence is a key positioning objective. Its higher viscosity actively contributes to the structure of fillings, creams, and high-cocoa confectionery products.

Fat Content

20–22% natural cocoa butter

Mouthfeel

Rich and rounded sensation on the palate

Intensity

Potent and persistent cocoa character

Recommended Applications

- Chocolate bakery products
- Cookies and brownies
- Fillings
- Ice cream
- Dairy desserts
- Premium beverages
- Confectionery
- Cream-based products

HIGH FAT · PREMIUM

ITB COCOA™ ALKALIZED 20–22%

Premium

A selected high-fat cocoa powder, designed for premium applications where flavor intensity, mouthfeel, and cocoa quality are critical formulation factors. The combination of high cocoa butter content and controlled alkalization provides a particularly smooth and sophisticated sensory profile that is difficult to replicate with conventional ingredients. Its use significantly elevates the perceived indulgence level of the finished product.

Intense Cocoa Aroma

Full and complex aromatic expression with strong olfactory presence in the finished product

Deep Roasted Notes

Rich and distinctive roasted character, typical of high-quality cocoa that has been properly processed

Mild Bitterness

Bitterness that is present but perfectly integrated, with no harsh edges or unpleasant aftertaste

Full Mouthfeel

Enveloping and smooth texture that conveys a perception of richness and superior quality

Lingering Cocoa Finish

Long-lasting aftertaste that reinforces sensory satisfaction and the perception of indulgence

Recommended Applications

Premium confectionery · High-end bakery · Ice cream · Desserts · Chocolate beverages · Fillings · Spreads · Gourmet food products.

SPECIALTY

ITB COCOA™ BLACK

Highly Alkalized Cocoa Powder

A specialty cocoa powder developed for applications that require an **intense color profile, from dark to near-black**. Its high degree of alkalization produces a distinctive visual appearance and a characteristic mild cocoa profile. This ingredient has gained increasing relevance in the global market as a result of the rise of dark and black product trends in cookies, ice cream, and bakery products, where visual impact is a determining factor in the consumer's purchase decision.

Key Color Advantages

Extremely dark color

High-impact near-black visual appearance

Powerful visual contrast

Maximum visual differentiation in composite products

Color differentiation

Premium visual positioning tool

Sensory Advantages

Reduced cocoa acidity

High pH, smooth profile with no acidic notes

Mild flavor profile

Attenuated cocoa character, without excessive bitterness

Flexible blending

Can be combined with other powders for custom profiles

ITB COCOA™ Black can be blended with other cocoa powders to achieve custom color and flavor profiles, allowing the formulator to precisely adjust the chromatic intensity and sensory character of the final product.

Recommended Applications

Dark cookies · Sandwich cookies · Black bakery products · Ice cream · Dessert decorations · Fillings · Coatings · Specialty confectionery · Premium visual concepts

SECTION C

CACAO DERIVATIVES

CACAO BEANS — The origin of cacao performance

INTABIOTECH can supply selected cacao beans for industrial processing, roasting, grinding, and further transformation of cacao. The selection of raw material is a determining factor in defining the final aroma, flavor, acidity, bitterness, and processing behavior of cacao. The intrinsic quality of the bean sets the quality ceiling achievable across all derivatives produced from it, which is why traceability and origin specification are becoming increasingly strategic in premium-positioning formulations.

The botanical variety, geographic origin, fermentation method, and drying conditions of the cacao bean generate fundamental differences in the aromatic profile of the final product. These differences can be leveraged as product differentiation tools in formulations that aim to communicate origin, sustainability, or uniqueness.

Industrial processing

Supply adapted to industrial processes of roasting, winnowing, grinding, and large-scale transformation

Origin-based selection

Adaptation based on provenance, harvest availability, quality requirements, and agreed industrial specifications

Certified quality

Selection focused on consistency in aroma, flavor, and processing behavior parameters

Applications

Industrial cacao processing · Chocolate manufacturing · Cacao mass production · Nib production · Roasting operations · Specialty cacao products.

DERIVATIVES · INCLUSION

COCOA NIBS

Cocoa nibs are obtained from clean, roasted, and chopped cocoa beans after shell removal. They deliver an intense cocoa flavor along with the characteristic texture of cocoa grain fragments. Their minimally processed nature makes them a highly valued inclusion ingredient in formulations seeking to convey authenticity, craftsmanship, and ingredient quality to the end consumer.

As an inclusion ingredient, cocoa nibs contribute not only sensory value but also a visual and textural component that enriches the consumption experience. Their versatility makes them suitable for both in-dough applications — where they are incorporated prior to baking — as well as coatings and decorations applied at the final stages of the production process.

Roasted Flavor

Authentic intensity of fermented and roasted cocoa

Crunchy Texture

Crispy fragment with high textural impact

Versatility

Multiple granulometry specifications available

Recommended Applications

- Chocolate · Bakery · Cookies
- Breakfast Cereals · Granola
- Ice Cream · Desserts
- Protein Products · Snacks · Gourmet Foods.

DERIVATIVES · MASS

CACAO MASS / CACAO LIQUOR

Pure cacao intensity

Cacao mass —also known as cacao liquor— is produced by grinding roasted cacao nibs until a homogeneous cacao paste is obtained. It naturally contains both cacao solids and cacao butter, and represents one of the fundamental ingredients used by the chocolate and confectionery industry. Its typical cacao butter content is approximately **50–55%**, subject to natural variation and individual specification.

Cacao mass is, in essence, cacao in its most concentrated and complete form: the totality of the bean's components —non-fat solids and lipid fraction— present in natural proportions. This makes it the ideal starting point for formulations seeking maximum cacao character and the cleanest, simplest ingredient declaration.

100%

Cacao-derived

Ingredient entirely sourced from the cacao bean with no addition of any external component

50–55%

Cacao Butter

Typical cacao fat content in cacao mass without pressing

Recommended Applications

Chocolate · Compound formulations · Fillings · Confectionery · Bakery · Ice cream · Desserts · Premium cacao products.

DERIVATIVES · BUTTER

NATURAL COCOA BUTTER

Pure functionality and premium texture

Ingredient Profile

Natural cocoa butter is the characteristic vegetable fat naturally present in cocoa beans. Its unique melting behavior and sensory characteristics make it one of the most valued fats used in chocolate and premium confectionery. Its triglyceride profile—dominated by highly symmetrical combinations of stearic, oleic, and palmitic acids—determines an exceptionally sharp melting curve that gives chocolate its characteristic melt-in-the-mouth sensation.

Key Characteristics

- Characteristic cocoa aroma
- Clean and precise melting profile
- Excellent mouthfeel
- Natural cocoa origin
- High-value functional fat

Recommended Applications

Chocolate

Essential ingredient in real chocolate formulations

Pralines and Fillings

Premium texture and mouthfeel in fine confectionery

Coatings

Glossy coverage with characteristic snap

Specialties

Bakery and specialty food formulations

DERIVATIVES · DEODORIZED BUTTER

DEODORIZED COCOA BUTTER

Deodorized cocoa butter retains the functional characteristics of cocoa butter while offering a significantly more neutral aroma and flavor profile. It is especially valuable when the functionality of cocoa butter is required without introducing an intense cocoa sensory contribution to the finished product. The deodorization process — typically through vacuum steam treatment — removes the volatile compounds responsible for the characteristic aroma without altering the triglyceride structure or crystallization behavior.

This makes it an ingredient of extraordinary technical versatility, allowing the formulator to benefit from the unique melting profile of cocoa butter in delicate flavor systems — vanilla, fruity, dairy, neutral — where an intense cocoa aroma would be undesirable or incompatible with the positioning of the final product.

Key Advantages

Neutral Sensory Profile

No cocoa aroma contribution to the finished product

Excellent Melting Behavior

Retains the characteristic melting curve of natural cocoa butter

High Formulation Versatility

Compatible with delicate flavor systems and light-colored applications

Recommended Applications

White chocolate · Confectionery · Fillings · Coatings · Bakery · Nutritional products · Specialty formulations

A COCOA PORTFOLIO. MULTIPLE FORMULATION POSSIBILITIES.

Selecting cocoa solely based on fat percentage does not adequately reflect its technological role in a finished food product. Color, alkalization, pH, particle size, flavor profile, cocoa butter content, dispersibility, processing temperature, and interaction with other ingredients can all influence the final result. Ignoring these parameters can lead to suboptimal formulations that fail to express the full technical and sensory potential of the ingredient.

For this reason, **INTABIOTECH approaches cocoa selection as a formulation decision, not merely a commodity purchase.** This approach, focused on technically solving the formulator's challenges, enables more effective collaboration between the supplier and the manufacturer's R&D team, shortening development cycles and improving the predictability of the final outcome.

Color and Chromatic Intensity

Selection of alkalization degree and color profile based on the visual impact required in the finished product

Complete Sensory Profile

Cocoa intensity, bitterness, acidity, mouthfeel, and persistence as independent formulation variables

Technological Behavior

Dispersibility in beverages, baking behavior, fat contribution, and compatibility with the processing system

Cost and Positioning Goals

Balanced selection between formulation cost and the final product's market positioning

INDUSTRIAL APPLICATIONS

The ITB COCOA™ portfolio has been designed to support a wide range of food manufacturing sectors, offering specific technical solutions for each type of application and processing system.

Bakery & Cookies

Sponge cakes, muffins, cookies, wafers, brownies, pastries, and bakery mixes. High demand for stable color, predictable baking behavior, and consistent flavor.

Confectionery

Chocolate products, fillings, coatings, pralines, creams, and inclusions. Strict requirements for sensory profile, melting behavior, and crystallization performance.

Beverages

Chocolate drinks, instant powders, functional beverages, and nutritional preparations. Dispersibility and color stability upon reconstitution are key parameters.

Dairy & Desserts

Yogurts, dairy desserts, puddings, creams, and ice cream. Cocoa must integrate homogeneously into dairy matrices with stable color and flavor.

Cereals & Snacks

Breakfast cereals, granola, bars, extruded products, and snack coatings. Color stability at high temperatures and adhesion in coating applications are critical.

Nutrition & Functional Foods

Protein formulations, meal replacements, nutritional powders, and specialized food products. Ultra-low-fat and optimized dispersibility are the key attributes.

FROM COCOA SELECTION TO FORMULATION OPTIMIZATION

The cocoa market increasingly demands that manufacturers balance four variables simultaneously: **sensory performance, technological functionality, cost control, and supply security.** None of these variables can be optimized in isolation without impacting the others, making cocoa selection a multidimensional strategic decision that goes far beyond a simple price-per-kilo comparison.

1

100% Traditional Cocoa

Natural and alkalized reference powders for conventional formulations

2

Optimized Cocoa Blends

Combination of powders and derivatives for a balanced technical and economic profile

3

Partial Cocoa Replacement

Integration of extension technologies for controlled cost optimization

4

Advanced Systems

Alternative cocoa technologies for maximum formulation flexibility

ITB COCOA™ has been developed to address these requirements through a portfolio that ranges from conventional natural cocoa powders to highly alkalized cocoa, high-fat cocoa powders, and primary cocoa derivatives. Where additional cost optimization is required, the ITB COCOA™ portfolio can also be combined with INTABIOTECH's dedicated cocoa extension and replacement technologies.

This offers manufacturers the ability to work across an entire formulation spectrum, from 100% cocoa systems to advanced optimized alternatives, with specialized technical support at every stage of the process.

ITB COCOA™

Cocoa Science. Industrial Performance. Formulation Flexibility.

INTABIOTECH SL — Food Technology · Ingredients · Applied Biotechnology

Technical Support

Technical assistance available for product selection, formulation trials, and industrial scale-up

Product Selection

Specialized guidance to identify the optimal cocoa ingredient for each application

Industrial Scale-Up

Support from the laboratory through to full industrial-scale production

Product characteristics, specifications, availability, origins, and packaging formats may vary depending on production batch, sourcing program, and agreed commercial specification. Definitive technical parameters will always be those stated in the corresponding Technical Data Sheet and Certificate of Analysis.

COMMERCIAL CONTACT

Let's Talk Cocoa

Our commercial team is ready to assist you. Product inquiries, sample requests, technical data sheets, or supply proposals — we are at your service.

Álvaro Robles

CCO · Chief Commercial Officer

+34 609 825 416

a.robles@intabiotech.com

José Ramón Castells

Commercial Manager

+34 674 001 716

jr.ndpharma@europe.com

Sue Rodríguez

Customer Relations & SPM

+34 604 068 683

sr.ndpharma@europe.com

---

intabiotech@intabiotech.com · **Mobile:** +34 613 812 425 · **Tel:** +34 881 092 720

Parque Empresarial Táctica, Botiguers 3, 46980 Paterna, Valencia, España

www.intabiotech.com · www.intabiotech.es · www.intabiotech.org · www.ndpharmabiotech.com

ITB COCOA™

INDUSTRIAL COCOA PORTFOLIO

www.intabiotech.com

www.naturcao.com

INSPIRED by NATURE · DRIVEN by SCIENCE