

# LECITHINS

CARGILL **ADVANTAGE** 









Versatile, label-friendly emulsifiers designed for wide-ranging applications in food,

pharmaceutical, personal care, animal feed, agricultural and industrial markets.

**BEGIN >** 







#### CARGILL ADVANTAGE



As a customer-focused supplier of ingredients for food, pharmaceutical, personal care, industrial and agricultural applications, Cargill is uniquely positioned to help develop new solutions for our customers and consumers.



CARGILL ADVANTAGE



**APPLICATIONS** 





Trusted ingredient experts with a broad portfolio of products and services

Why Cargill?



Deep R&D resources with expertise in regulatory

compliance, applications and product development



Proprietary marketing data and unique insights to help create innovative product solutions



Reliable and sustainable global sourcing and supply chain



Quality guarantees and contaminant control to meet customer and regulatory requirements









## Lecithin



For nearly 100 years, lecithin has been an essential ingredient in formulators' toolkits. This plant-derived, versatile, label-friendly emulsifier seems to do it all. It improves blending and moisture retention in bakery, enhances mouthfeel in dairy alternatives, serves as a replacement to synthetic emulsifiers and disperses fat and water-binding ingredients in instant applications.



\*There is no single definition of "non-GMO" in the USA. Contact Cargill for source and processing information.



**APPLICATIONS** 

Lecithin

Lecithin Functionality Fluid Lecithin Deoiled Lecithin







# **Lecithin Functionality**

Lecithin is composed of phospholipids, which hold the secret to its extensive functionality. On one side, phospholipids attract water; on the other, they attract oil. This amphipathic property allows lecithin to create strong oil-in-water and water-in-oil emulsions...and may provide a myriad of other benefits too.









Lecithin

Label-friendly alternative

to synthetic emulsifiers

**Stabilization** 

Homogenization

**Anti-oxidation** 

Wetting agent

**Dispersant** 

Fluid Lecithin





## **Fluid Lecithin**



PRODUCT PORTFOLIO

FOOD APPLICATIONS Fluid lecithin products are blends of phospholipids and vegetable oils. Easily soluble in oil or fat, they are often used in confectionery, convenience, instantizing, animal feed, industrial and agricultural applications. Cargill's fluid lecithin portfolio includes both soy- and sunflower-sourced options.

FLUID LECITHIN	BENEFITS	
Soy lecithin	Cost-effective solution	
Non-GMO* soy lecithin	Non-GMO Project Verified Option of expeller-pressed lecithin, processed without chemical solvents	
Non-GMO* sunflower lecithin	Non-GMO Project Verified Not a major food allergen	
Modified soy lecithin	Better water dispersibility Good for oil-in-water emulsion Offers heat resistance	
Low-viscosity lecithin	Enhanced with specialty oils and co-emulsifiers Superior wetting and dispersibility properties	

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NON-FOOD APPLICATIONS

Lecithin

Fluid Lecithin





### CARGILL **ADVANTAGE**

PRODUCT PORTFOLIO

FOOD **APPLICATIONS** 

NON-FOOD **APPLICATIONS** 



Deoiled lecithin products are free of residual vegetable oil, providing more concentrated phospholipids for enhanced dispersion in water and easier handling. Neutral in both color and flavor, their improved functionality makes them a popular choice for a wide range of bakery, beverage, snack and instantizing applications. Cargill's deoiled lecithins are available in both granular and powder forms, sourced from soy, sunflower or canola.

DEOILED LECITHIN	BENEFITS
Soy lecithin	Cost-effective solution
Non-GMO* soy lecithin	Non-GMO Project Verified May be used in organic products**
Non-GMO* sunflower lecithin	Non-GMO Project Verified Not a major food allergen May be used in organic products**
Non-GMO* canola lecithin	Non-GMO Project Verified Not a major food allergen in the U.S. May be used in organic products** Clean flavor profile



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Lecithin

Fluid Lecithin







PRODUCT PORTFOLIO

FOOD



### (PC-Enriched Fluid Lecithin, PC-Concentrates and Isolates)

Fractionated lecithin offers increased concentrations of phosphatidylcholine (PC) or acidic phospholipids. Used primarily in dietary supplements, pharmaceutical and personal care applications, fractionated lecithin provides increased water dispersibility, enhanced emulsification and suspension properties, and can serve as an anti-crystallization agent. Cargill's fractionated soy lecithin is available in both deoiled and fluid forms.





NON-FOOD

Lecithin

Lecithin Functionality

Fluid Lecithin

Deoiled Lecithin







# **Dairy & Dairy Alternatives**



PRODUCT PORTFOLIO

FOOD APPLICATIONS

NON-FOOD APPLICATIONS Consumers have high expectations for dairy products, with satisfaction often dependent on delivering a creamy, smooth mouthfeel. In the rapidly growing dairy-alternative space, getting texture and mouthfeel right is even more challenging. In both applications, lecithin can help achieve the sensory performance consumers expect.

Fluid: 0.5-1% Deoiled: 0.2-0.7%	
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Fluid: 0.5-1%	
Deoiled: 0.2-0.7%	
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Dairy & Dairy Alternatives





### Convenience



PRODUCT PORTFOLIO

FOOD APPLICATIONS

NON-FOOD APPLICATIONS In the convenience food category, lecithin's versatility shines. Margarines depend on lecithin to prevent water coalescence during heating, while keeping spattering to a minimum. In gravies, soups and sauces, lecithin's stabilizing, emulsifying and dispersion properties can help create the consistent, smooth textures consumers expect. It can also be used as a release agent, serving as a nonstick barrier between foods and contact surfaces.

APPLICATION	BENEFITS	LECITHIN / USE RATE
Margarines Spreads	Minimizes spattering Prevents coalescence during heating	Fluid: 0.3-1%
Gravies Sauces Soups	Dispersion Reduces fat separation Stabilizes emulsions	Fluid: 0.5-1% Deoiled: 0.2-0.7%
Release agents (pans, belts and molds)	Promotes separation Prevents build-up (modified lecithin only) Resists darkening (modified lecithin only)	Fluid: 2-5% in oil Deoiled: 10% in water





Dairy & Dairy Alternatives Convenience

Bakery

Confectionery & Chocolate







PRODUCT PORTFOLIO







**Bakery** Lecithin is a staple in

Lecithin is a staple in bakery applications, where it delivers greater loaf volumes, superior ingredient mixing, increased moisture retention, improved release agent characteristics, plus so much more.



APPLICATION	BENEFITS	LECITHIN / USE RATE
Breads	Enhances dough release Increases loaf volume Extends shelf life Ensures uniform crumb texture Improves high-speed slicing	Deoiled: 0.2-0.7% based on flour weight
Cakes Doughnuts	Aids in fat-sparing Improves ingredient mixing Improves dough handling and release Increases fat absorption / sugar adherence (doughnuts) Ensures uniform browning Improves water retention	Deoiled: 1-3% based on dry mix ingredient weight
Cookies Crackers Muffins	Extends freshness Creates homogenous batter Improves crumb Improves processing Provides uniform browning	Deoiled: 0.2-0.5% based on flour weight
Fillings Icings	Enhances creaminess (icing) Improves moisture retention Creates smoother texture	Deoiled: 0.2-1% based on total formula weight
Pie crusts Pizza dough	Improves release Reduces dough stickiness	Deoiled: 0.2-0.5% based on flour weight
Flat breads Tortillas	Increases dough flexibility Reduces dough stickiness Aids in water retention	De-oiled: 0.2-0.5% based on total formula weight











PRODUCT PORTFOLIO

FOOD APPLICATIONS

NON-FOOD APPLICATIONS Confectioners rely on lecithin to reduce chocolate's viscosity, making everything from plain chocolate bars to chocolate-covered pralines possible. It inhibits fat bloom, extending the shelf-life of chocolate confections, and even helps chocolate makers keep costs in check by reducing the amount of cocoa butter required. It's also a key ingredient in chewing gum, where it helps control flavor release and improves "chewability."

PPLICATION	BENEFITS	LECITHIN / USE RATE
Chewing gums	Improves chewability Homogenizes ingredients Prevents sweetener recrystallization Extends shelf life Aids slow flavor release Softens gum base	Fluid: 0.5-1% Deoiled: 0.25-0.5%
hocolate	Softens gum base Enhances viscosity Extends shelf life (prevents fat bloom)	Fluid: 0.1-1%

**Confectionery & Chocolate** 



Dairy & Dairy Alternatives





HOME



NON-FOOD **APPLICATIONS** 

## Instant Foods & Beverages

Powdered foods and beverage mixes have lecithin to thank for reducing lumps and improving texture and mouthfeel. Its emulsifying properties effectively wet and disperse both water-binding and fat-binding ingredients in cold water, milk and other liquids.

	APPLICATION	BENEFITS	LECITHIN / USE RATE
_	Beverage powders	Supports agglomeration	Fluid: 0.2-1%
UCI OLIO	Cocoa powders	Provides consistent mixing	Low Viscosity Fluid: 0.2-1%
	Dairy and non-dairy powders	Enhances dispersion	Deoiled: 0.2-1%
	High-protein powders	Reduces dust	
	Infant formulas	Improves mouthfeel	
	Instant noodles	Smooths out texture	
	Sports nutrition powders	Aids wettability	
DATIONS	Soup and gravy mixes		





**Dairy &** Dairy Alternatives

Convenience

Confectionery

& Chocolate





#### NON-FOOD APPLICATIONS

### **Animal Feed**

**BENEFITS** 

Aids dispersion

Reduces dust

Provides source of energy



In products like milk replacers, lecithin functions as an emulsifier, wetting agent and dispersant, filling three vital roles with a single ingredient. Feed makers also value the versatile ingredient in pelleted feed and pet food.

**LECITHIN / USE RATE** 

Fluid: 0.5-1%

Deoiled: 0.2-0.7%









**Animal Feed** 

**APPLICATION** 

Calf milk replacer

**Bulk pellets** 

Pet food

#### **Industrial &** Agricultural

#### **Pharmaceuticals**

#### Personal Care



Improves emulsification Enhances pellet structure Aids wettability







Industrial & Agricultural



PRODUCT PORTFOLIO

FOOD APPLICATIONS In industrial and agricultural applications, lecithin offers a range of benefits, from lubricating drill bits to inhibiting rust. Sought after for its exceptional emulsifying and dispersibility properties, lecithin plays critical roles in oil fields, crop fields, textile factories and more.

APPLICATION	BENEFITS	LECITHIN / USE RATE
Agricultural spraying	Surfactant friendly Increases viscosity	Fluid: 1-50%
Coatings Inks Paints	Improves coat adhesion Aids color stability Enhances dispersion Speeds mixing time Improves pigment distribution Inhibits rust	Fluid: 1-4%, based on pigment weight
Industrial drilling	Lubricates drill bits Reduces friction Provides heat resistance Increases viscosity	Fluid: 1-5%
Leather Textiles	Aids dispersion Increases lubrication Smooths and softens leather and fibers	Fluid: 0.5-1%







NON-FOOD APPLICATIONS





#### NON-FOOD APPLICATIONS

## **Pharmaceutical**



PRODUCT PORTFOLIO

FOOD APPLICATIONS Fractionated lecithins, with their elevated levels of phosphatidylcholine (PC), are coveted in pharmaceutical applications. These lecithins can help deliver enhanced functionality, providing superior water dispersibility and increased emulsification properties, critical factors for many liquid and topical pharmaceutical formulations.

APPLICATION	BENEFITS	LECITHIN / USE RATE	
Liquid dosage forms	Aids emulsification (liquid emulsions and ointments) Provides a refattening agent (ointments)	Fluid: 1-3%	
Solid dosage forms	Delays fat crystallization (suppositories) Provides release agent (capsules) Serves as wetting and dispersing agent (tablets and powders)	Deoiled: 0.5-6%	
Liposomal applications	Protects ingredients Increases bioavailability Provides transdermal support	Fluid: 1-5%	



NON-FOOD APPLICATIONS

Animal Feed



#### NON-FOOD APPLICATIONS



### **Personal Care**



PRODUCT PORTFOLIO Cargill's plant-based lecithins serve as label-friendly emulsifiers for many beauty applications. They can help create stable emulsions in creams, help keep lipsticks moist and smooth, and give lotions their rich, velvety feel.

BENEFITS	LECITHIN / USE RATE
Prevents fat crystallization	Fluid: 0.1-5%
Forms rich gel	Deoiled: 0.1-5%
Aids stabilization (creams and lotions)	
Improves water retention (lipsticks)	
Protects ingredients	Fluid: 0.1-5%
Increases bioavailability	Deoiled: 0.1-5%
Provides transdermal support	
	Prevents fat crystallization Forms rich gel Aids stabilization (creams and lotions) Improves water retention (lipsticks) Protects ingredients Increases bioavailability





FOOD APPLICATIONS



Animal Feed

Industrial & Agricultural

Pharmaceuticals

**Personal Care** 















## **Contact & Samples**

To learn more, contact your Cargill sales representative.



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