

# Freeze Dried Cheese

Imagine a shelf stable, protein packed natural cheese that offers versatility in formulation and delivers on flavor. Explore the Freeze Dried Cheese opportunity with Glanbia Nutritionals.





# FREEZE DRIED CHEESE

## A Shelf Stable Cheese with Award Winning Flavor

Glanbia Nutritionals is always looking for solutions for our customers; this relentless search uncovers unexpected opportunities such as freeze dried cheese. Freeze dried cheese is a shelf stable cheese that can be used as a regular cheese once rehydrated or in dehydrated form for immediate consumption. Freeze dried cheese is commonly found in survival kits or emergency food storage meals but we believe this versatile, nutrient rich dairy food could do more.








## Freeze Dried Cheese Market Potential

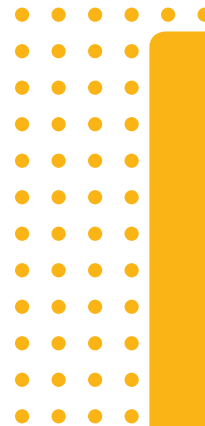
Freeze dried cheese is a growing product in the freeze dried food category. We believe there's potential for this product to be used in new applications such as bars, soups, and dry snacks in five identified consumer markets.

	MARKET	BENEFIT
<div> <b>Market Potential</b>  <i>Currently available in shreds. Cubes are being explored.</i> </div>	<b>Survivalists</b>	Provides a long shelf life for storage (industry benchmarks claim 20+ years properly sealed)
	<b>Outdoor Enthusiasts</b>	Provides satiety, protein, is lightweight and shelf stable
	<b>Ingredients Customers</b>	For use in a variety of prepared and processed foods
	<b>Snacking Applications</b>	A highly portable and shelf stable cheese snack option with a distinctive crunch
	<b>Ready to Eat Meals (MRE's)</b>	Provides satiety, nutrient rich dairy in a shelf stable format
	<b>HIGH PROTEIN</b>	<b>RICH IN CALCIUM</b>
	<b>LIGHT-WEIGHT</b>	<b>PORTABLE</b>
	<b>SHELF STABLE</b>	<b>MULTI-PURPOSE</b>

## How to Produce Great Freeze Dried Cheese

When compared to other drying methods, such as cabinet or table dryers, freeze drying offers a superior flavor and quality.

-  Make delicious and award winning cheese
-  Convert multiple varieties of cheese into shredded or cube format
-  Freeze dry using our state of the art lyophilization system, preserving flavor and nutrients
-  Seal, store, pack...you decide
-  Leave dehydrated or rehydrate and enjoy!



## How a Customer Could Use Freeze Dried Cheese

- **Dry Ingredients:** Since freeze dried cheese has low water activity, if it's added directly to a bar or bread like product, it will not likely contribute to water migration in the product. It will, however, take on some moisture from other ingredients if water activity in product is higher.
- **Rehydrated Ingredient:** The water used to rehydrate freeze dried cheese really depends on what formulation or recipe the product is used in, but industry benchmarks show a 4:1-5:1 ratio of cheese to water is optimal.

## Freeze Dried Cheese Shelf Life & Storage Conditions

- The standard shelf life for freeze dried cheese is 6-12 months unsealed and up to 20+ years in a sealed, tight format.
- The recommended storage conditions for freeze dried cheese is minimal exposure to moisture and light.

## Characteristics



## Ingredients

*Glanbia's Freeze Dried colored cheddar cheese is produced from cheddar cheese made from pasteurized milk.*

**Ingredients:** Cheese (Cultured Pasteurized Milk, Salt, Enzymes, Annatto (color), Anti-Caking Agent (Potato Starch, Dextrose, Calcium Sulfate, Natamycin, Enzyme).

**35g protein per 100 gram serving (100 gr = 1 cup)**

## Did You Know?

*Rehydrating the freeze dried cheese over a longer period of time produces the most representative product, as it gives the product more time to fully rehydrate.*