



# Alpha-Lactalbumin Standard

## Product Definition

Bovine Alpha-Lactalbumin is a protein isolated from either milk or fresh whey. A combination of different protein isolation technologies may be utilized for purification of the protein. Alpha-Lactalbumin complies with all provisions of the U.S. Federal Food, Drug, and Cosmetic Act.

## Composition

Parameter	Units of Measure	Alpha-Lactalbumin WPI		Alpha-Lactalbumin WPC	
		Typical Values	Limits	Typical Values	Limits
Protein	%, db	90 – 92	89.5 minimum	34 – 80	33.5 minimum
Alpha-lactalbumin	% <sup>1</sup>	-	28 minimum	-	28 minimum
Fat	%	0.5 – 1.0	1.5 maximum	-	10 maximum
Ash	%	2.0 – 3.5	-	-	10 maximum
Lactose	%	0.5 – 1.0	-	-	60 maximum
Total moisture	%	4.0 – 5.0	6.0 maximum	4.0 – 5.0	6.0 maximum

1 - Alpha-lactalbumin units of measure are as a percentage of the protein content.

## Other Characteristics

Physico-chemical Properties		
Parameter	Units of Measure	Limits
Scorched particles	mg/25g	15.0 maximum
pH	-	2.5 – 7.5
Flavor	sensory	bland, clean

Microbiological Analysis		
Parameter	Units of Measure	Limits
Standard plate count	CFU/g	30,000 maximum
Yeast & mold	CFU/g	100 maximum
Coliforms <sup>2</sup>	CFU/g	10 maximum
<i>Enterobacteriaceae</i> <sup>2</sup>	CFU/g	10 maximum
<i>Salmonella</i>	CFU/sample <sup>3</sup>	not detected

2 - The food industry is trending toward *Enterobacteriaceae* ("EB") as the most commonly used category of indicator organisms for gauging general process sanitation. For compliance with this Standard, either coliforms and/or EB shall be utilized, at the discretion of the manufacturer.

3 - Typical minimum sample size for *Salmonella* testing is 25 g, but the exact sample size and methodology is left to the discretion of the manufacturer.

## Permissible Additives

Alpha-Lactalbumin may be pH adjusted with an appropriate mineral or organic acid or base. Any pH adjustment agent used for this purpose shall be food grade and shall be used in accordance with U.S. current Good Manufacturing Practices and in accordance with its GRAS status, where applicable.

## Methods of Analysis

Parameter	Reference Method
Protein	AOAC 991.20 (N x 6.38)
Alpha-lactalbumin	HPLC
Fat	AOAC 989.05
Ash	AOAC 942.05
Lactose	ISO 22662 / IDF 198
Total moisture	AOAC 925.45
Scorched particles	ADPI
pH	USDA
Microbiological tests	FDA BAM

## Product Labeling

Recommended identifications:     Alpha-Lactalbumin  
   Whey Protein Concentrate  
   Whey Protein Isolate

## Typical Applications

Alpha-Lactalbumin is typically used in infant formula; high protein beverages; ice cream; frozen yogurt; beverages; salad dressings; process cheese; gels; protein bars; and others.

## Typical Storage & Shipping

Product should be stored, shipped, and utilized according to the manufacturer's established recommendations. As guidance, product should be stored and shipped in a cool, dry environment with temperature below 80°F and relative humidity below 65%. Stocks should be rotated and utilized in accordance with the manufacturer's established date of expiration or retest.

## Typical Packaging

Multiwall kraft bags with polyolefin inner liner, or other suitable closed containers (e.g., totes) are typical.

## Revision History

Current Version	Effective Date	Notes
1.0*	10/15/2017	First officially approved version of this new ingredient standard.
2.0	07/03/2023	Migrated this Standard to the new modernized format as authorized by the ADPI Standards Committee. No previously established test parameters or limits were materially altered by this update. Authorization to use additives for pH adjustment was migrated out of the Product Definition section and into the Permissible Additives section that is provided in the modernized format, following the verbiage previously reviewed by the ADPI Standards Committee. This revision did incorporate footnotes to clarify the unit of measure for the alpha-lactalbumin content and for the restated unit of measure for <i>Salmonella</i> .

\* - Assigned *ex post facto*