

A. Low Heat



Extra Grade	LOW HEAT
Spray Dried Nonfat Dry Milk ~ Formula 204	
Prepared by: Tom Honse	Approved by: Tom Honse
Revised: 05/15/2010	Supersedes: 04/15/2008

Regulations/General:

This product conforms to the USDA Standards in 7CFR §58.248, the Standards of Identity in 21CFR§131.125, and complies with FDA's Good Manufacturing Practices in 21CFR§110. Prior to receipt, the raw milk used to produce this product is screened for antibiotic residues per the approved methods mandated by the Federal Pasteurized Milk Ordinance (PMO). The product is legally pasteurized through a state-sealed HTST unit at a minimum 161°F (72°C)/15 sec. as part of the production process.

Description:

This product is a food-grade powder resulting from the removal of only water from pasteurized skim milk. It shall be white to light cream in color, free-flowing and free of lumps that do not break up under slight pressure. It shall be practically free of dark particles. Flavor shall be sweet, pleasing, but slight chalky, cooked, feed or flat flavors are permissible.

Chemical/Physical & Microbiological:

CHEMICAL/PHYSICAL	TYPICAL*	SPECIFICATIONS
*%Moisture ^{15.111} (vacuum)	3.0	≤ 4
*%Butterfat ^{15.086} (ether extraction)	0.7	≤ 1.25
*%Titratable Acidity ^{15.021} (10% solution as lactic acid)	0.13	≤ 0.15
*Scorched Particles ^{15.172}	Disk A 7.5mg	Disk B ≤ 15mg
*Protein ^{15.132} (Kjeldahl x 6.38)	35.0	34 min
*Ash ^{15.041}	6.3	≤ 8.0
*Solubility Index ^{15.171}	0.10 ml	≤ 1.2 ml
*Whey Protein Nitrogen (WPN) ^{1-D 1.v.}	6 - 8 mg/g	≥ 6 mg/g
*pH ^{15.022} , (10% solids basis)	6.4 - 6.8	≥ 6.4 min.
%Granulation (10g; mechanical shaker, 10 minutes, med setting)	98 thru USS#40	

MICROBIOLOGICAL	TYPICAL**	SPECIFICATIONS
*Bacterial estimates (SPC) ^{6.020}	< 10 cfu/g	≤ 10,000 cfu/g
*Coliform ^{7.020 & 7.070}	< 10 cfu/g	< 10 cfu/g
*Yeast/Mold ^{8.115}	< 10 cfu/g	< 50 cfu/g
*Coag.+ Staph ^{5.050} (1x/shift individual plates)	Negative (to test)	
*Salmonella ^{5.020 & 15.035} (2x375g composite)	Negative (to test)	

Methods of Analysis

As mandated by PMO - APHA *Standard Methods for the Examination of Dairy Products* - 17th Ed.

ADDITIONAL REFERENCES. 1) USDA DA Instruction-918-RL, Laboratory Methods and Procedures
2) ADPI *Publication-Standards for Grades of Dry Milks, including Methods of Analysis* (Bulletin 916)

*Typical Analysis. Not all tests performed on each sub lot. *Added tests can be done at additional customer cost*

Shelf Life/Packaging/Coding:

Shelf life - 1 year when shipped and stored at ambient temperatures less than 90° F and 90%RH. Packaged in 25kg bags x 40/pallet and 2000# totes.

Coding information printed/stamped on package with product name, state plant number

CODE: 4-digit AMPI ID number, 1YYDAY (Julian date) and sub lot letters/number.

Example: 6200110200AR09 6200 = Arlington-110 = 2010-200 for Jul 19-sublot AR 09

1 sublot = 2 pallets or 1 tote

Kosher: Yes - O-U _D

Allergens: milk

AMPI Product Codes: 204-7055 = LH NFDM 25kg bags; 204-1600=Low Heat totes,



COUNTRY OF ORIGIN:

AMPI is a major Midwestern American Dairy Cooperative that uses only domestic milk in the manufacturing of our dairy products.

FOREIGN MATERIAL PROTECTION:

All AMPI dairy powders pass over a set of in-line rare-earth magnets followed by a sieving procedure that utilizes a 40 mesh screen immediately prior to the final packaging step. Metal detector step during packaging for bags.

Ingredients:


Pasteurized Nonfat Dry Milk

NUTRIENTS	UNITS	/100g
Water	g	3.16
Energy	Kcal	362
Protein	g	36.16
Total Lipid (fat)	g	0.77
Trans Fatty Acids	g	0.02
Ash	g	7.93
Carbohydrate (by difference)	g	51.98
Fiber, total dietary	g	0
Sugars (total)	g	51.98
Lactose	g	51.98
MINERALS		
Calcium - Ca	mg	1257
Iron - Fe	mg	0.32
Magnesium - MG	mg	110
Phosphorus - P	mg	968
Potassium - K	mg	1794
Sodium - Na	mg	535
Zinc - Zn	mg	4.08
VITAMINS		
Vitamin C - ascorbic acid	mg	6.8
Thiamin	mg	0.42
Riboflavin	mg	1.55
Niacin	mg	0.95
Pantothenic acid	mg	3.57
Vitamin B-6	mg	0.36
Folate - total	mcg	50
Folic Acid	mcg	0
Vitamin B-12	mcg	4.03
Vitamin A	IU	22
Vitamin E (alpha-tocopherol)	mg	0.02
Vitamin D	IU	332
Vitamin K (phylloquinone)	mcg	0.1
Lipids		
Fatty Acids - total saturated	g	0.499
Fatty Acids - tot.monounsatur.	g	0.201
Fatty Acids - tot. polyunsatur.	g	0.030
Cholesterol	mg	20

Source: USDA:ARS Release 19 2006

These specifications are for product to be offered and delivered by Hoogwegt US, Inc. for the Contingente Arancelario Del Tratado de Promocion Comercial entre la Republica de Panama y los Estados Unidos de America, and for delivery between January 1st and December 31st, 2015.

A. Low Heat

 Product Specification	
TITLE: Nonfat Dry Milk Grade A Low Heat	PRODUCT NUMBER: NDML 2500
PACKAGE TYPE: 25 KG	CREATED BY: Ronald I. Thompson, Ph.D.

I. Description

Nonfat Dry Milk Grade A Low Heat is the powder resulting from the removal of the fat and water from fresh Grade A milk. It shall contain the lactose, milk proteins and milk minerals in the same relative proportions as they occur in fresh milk. The product shall be made from fresh, sweet milk to which no preservative, alkali, neutralizing agent or other chemical has been added and which has been pasteurized. The product is manufactured consistent with all requirements of the standards of Identity in the Code of Federal Regulations (21 CFR 131.125) and Good Manufacturing Practices (21 CFR 110).


II. Chemical & Physical Analysis:

Attribute	Units	Typical	Minimum	Maximum	Frequency	Method	On C of A
Protein (as is basis)	% m/m	34.0	32.0	39.0	1 per 45 MT	Kjeldahl/NIR	No
Moisture	%m/m	3.9	NA	4.0	1 per 9 MT	IDF/NIR	Yes
Fat	%m/m	0.70	NA	1.25	1 per 9 MT	IDF/NIR	Yes
WPNI: Low Heat	mg/g	6.5	6.0	NA	1 per 9 MT	SMEDP/AOAC	Yes
Titrateable Acidity	%m/v	0.13	0.11	0.15	1 per 9 MT	ADPI/AOAC	Yes
Drug Residues		Not Found	NA	NA	NA	Charm 3SL3	No
Insolubility Index	mL	0.2	NA	1.25	1 per 45 MT	SMEDP	Yes
Scorched Particles	mg/25g	7.5 (A)	NA	15.0 (B)	1 per 9 MT	SMEDP	Yes

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 Product Specification	
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PACKAGE TYPE: 25 KG	CREATED BY: Ronald I. Thompson, Ph.D.

III. Microbiological Standards:

Attribute	Units	Typical	Minimum	Maximum	Frequency	Method	On C of A
Aerobic Plate Count (APC)	cfu/g	<100	NA	10,000	1 per 9 MT	SMEDP (3M™Petrifilm™)	Yes
Coliforms	cfu/g	<10	NA	10	1 per 9 MT	SMEDP (3M™Petrifilm™)	Yes
Salmonella	/750 g	Absent	NA	Absent	1 per 45 MT	FDA BAM	Yes
Yeast & Mold	cfu/g	<10	NA	50	1 per 45 MT	SMEDP (3M™Petrifilm™)	Yes
Coagulase Positive Staphylococci	cfu/g	Absent	NA	10	1 per 45 MT	FDA BAM	Yes


IV. Physical Properties:

Attribute	Description	On C of A
Color:	White to cream	No
Flavor:	Clean, slight cooked flavor, no non-typical flavors	No
Odor:	Fresh, sweet, no off odor	No
Appearance:	Free flowing powder, no lumps	No
Bulk Density:	0.65-0.85 g/cc	No

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 Gustavo Wüst
 Export Manager
 Hoogwegt U.S., Inc.

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TITLE: Nonfat Dry Milk Grade A Low Heat	PRODUCT NUMBER: NDML 2500
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V. Packaging & Storage

Packaged in Kraft multi-wall bags incorporating a polyethylene bag liner, and individually closed. Staples or metal fasteners are not acceptable. The Dried products can absorb odors and moisture. Storage in a cool, dry environment recommended for maximum shelf life.

VI. Shelf Life:

The product has twenty-four (24) month shelf life when stored at < 80 °F (26 °C) and < 65% relative humidity in original, sealed bags.

VII. Allergen Statement

Contains milk proteins or Contains Milk.

VIII. Ingredient Statement

Nonfat Dry Milk.

IX. Table of Revisions:

Revision	Description of Revision	Date	Approvals
	Initial Release	2012	Steve Cooper
			Ronald I. Thompson, Ph.D.

¹SMEDP – Standard Methods for the Evaluation of Dairy Products, current edition.

²Tested by adjusting to 9.0% solids.

³Drug Residue testing is performed at the plant on the raw milk prior to receipt, Continuing Guaranty required.

⁴Temperature is sampled at the plant prior to receipt.

⁵FDA BAM – US Food and Drug Administration Bacteriological Analytical Manual, current edition.

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Gustavo Wüst
Export Manager
Hoogwegt U.S., Inc.

A. Low Heat

SKIM MILK POWDER LOW HEAT ADMI
 Development stage Ref. SMC00H4028

**TECHNICAL
DATA SHEET**

Description Spray-dried skim milk powder

Applications Skim milk powder can be used in a wide range of food applications

Benefits Skim milk powder is easily reconstituted and can even be used dry

Technical specifications

	Typical Value	Guaranteed Value	Method of Analysis
Physical - Sensorial			
Form	Free flowing powder		Internal method
Color	White		Internal method
Taste and odor	Neutral		Internal method
Scorched particles	A	A-B	ADPI
pH	6.7	6.6 - 6.8	10% - 20°C
Acidity	0.14%	≤ 0.15%	ADPI
Solubility	0.5 ml/50 ml	≤ 1 ml/50 ml	ADPI
WPN	> 6.0 mg/ g	> 6.0 mg/ g	ADPI
Chemical			
Total moisture	3.5%	≤ 4%	AOAC 925.40
Total protein	33.0%		AOAC 991.22
Protein on nonfat dry matter		≥ 34%	AOAC 991.22
Total fat	0.5%	≤ 1.25%	AOAC 989.05
Total carbohydrates	55.5%		by difference
Lactose	55.5%		by difference
Total ash	7.5%	≤ 8%	AOAC 945.46
Microbiological			
Total Plate Count	< 30 000 / g	< 50 000 / g	AOAC 966.23
Yeasts - Moulds	< 50 / g	< 100 / g	AOAC 997.02
Coliform organisms	< 10 / g	< 10 / g	BAM 2001
Sp. Clostridium SR	< 10 / g	< 30 / g	Internal method
Salmonella	negative / 50 g	negative / 50 g	AOACRI 100201 PCR
Staphylococcus coag+	negative / g	negative / g	AOAC 2003.08
Nutritional			
Energy per 100g	359 kcal - 1523 kJ		

Packaging and storage

Packaging:
25 kg polythene lined paper bags

Best before date:
18 months when stored in a cool and dry place

Quality assurance

Allergens: Milk and products thereof (including lactose)

GMO: Not submitted to the EU regulations n°1829/2003 and 1830/2003 relating to Genetically Modified (GM) food and feed

Kosher: Yes

Halal: Yes

Grade A: Yes

Regulation

Custom code (USA):
04.02.10.50.00


Suggested labeling:
Skim milk powder

September 18th, 2014


This data sheet corresponds to an industrial development stage. Some characteristics are subject to adjustment.

'ingredia's Exclusive Partner in the United States'

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