

A. Low Heat

GRADE "A" NFDM - 40920

Product Definition

Grade A Nonfat Dry Milk

Product Applications

Spray Dried Nonfat Dry Milk is the powder resulting from the removal of the fat and water from fresh Grade "A" Milk. It contains the milk proteins, minerals and carbohydrates in the same relative proportions as they occur in fresh milk.

Chemical Analysis

	<u>Typical Values</u>	<u>Specification</u>	<u>Methodology</u>
Fat	0.80%	1.25% max.	Mojonnier
Moisture (total moisture)	3.5%	4.0% max.	Atmospheric Oven 302° F (150° C)
WPN		6.0 mg/g min.	S.M.E.D.P.
Titrateable Acidity		<=.15% max.	ADPI

Microbiological Standards

	<u>Typical Values</u>	<u>Specification</u>	<u>Methodology</u>
Total Aerobic Count	< 10,000/g	10,000/g max.	Standard Methods Agar
Salmonella	Negative	Negative/750g	FDA-BAM
Coliform	< 10/g	10/g max.	Violet Red Bile Agar
Yeast and Mold	< 10/g	100/g max.	Acidified Potato Dextrose Agar

Nutritional Information*

(Mean/100g)

Calories.....	331.29	Sugars (%).....	48.66
Calories from fat.....	6.87	Protein (g).....	≥34.00
Total Fat (g).....	0.76	Sodium (mg).....	471.37
Saturated Fat (%).....	0.48	Calcium (mg).....	3624.05
Trans Fatty Acids (g).....	0.03	Iron (mg).....	0.385
Cholesterol (mg).....	23.85	Vitamin A (IU).....	28.63
Total Carbohydrate (g).....	48.66	Vitamin C (mg).....	7.63

*Nutritional results, although based on limited testing, fall within the expected manufacturing ranges.

Ingredient Statement

Skim Milk

Physical Characteristics

Appearance: Light Cream to White powder
 Flavor and Odor: Clean, cooked, slightly sweet-sour, mildly acidic taste; no foreign flavor or odor.

Packaging and Storage

Product is packaged in a 907.194 kg (2000 lb) tote with 3 mil liner. Product is recommended to be stored at no more than 80° F (27° C) and relative humidity under 75%.



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



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 delivrcy between January 1st and December 31st, 2015.



Maryland & Virginia
Milk Producers Cooperative Association, Inc.

SPECIFICATION SHEET
PRODUCT: NON FAT DRY MILK
GRADE A

Page 1 of 1
Author: Muzahidur (Mo) Rahman

Issue Date: 1/15/2010
Supersedes Date: 1/12/2009

A. **MATERIAL DESCRIPTION:** Nonfat dry milk is the product obtained by removal of water from pasteurized skim milk in a falling film evaporator and a compact atomizer dryer (21CFR 131.125). It contains not more than 4% by weight moisture and not more than 1.25% by weight of milkfat unless otherwise indicated. No additives are added. Available in Low-heat and High-heat.

B. **SPECIFICATIONS AND ANALYSES:** The product is made from 100% skim milk. The NFDM shall have a pleasant flavor, aroma characteristic of NFDM. The product shall be pasteurized at not less than 161 F (L.H.)/190 F (H.H.) for 15 seconds.

C. **Kosher Status:** OU Dairy

D. **Physical and Chemical Properties:**

	<u>Guideline</u>	<u>Action Level</u>	<u>Method</u>
Fat %	≤ 0.9	> 1.25	SMDP 16 th Ed. 15.8F
Titrate Acidity %	≤ 0.13	< 0.10 or > 0.15	SMDP 16 th Ed. 15.3
Antibiotic	Negative	Positive	Charm SL Beta Lactam
Solubility Index (ml)	0.1	> 1.2	USDA 918 RL D1-57
Moisture %	≤ 3.5	> 4.0	USDA 918 RL D1-33
Scorched Particles (mg/g)	≤ 15.0	> 15.0	USDA 918 RL D1-54
WPN /g (Low-Heat)	≥ 7.0	< 6.0	USDA 918 RL D1-76
(High-Heat)	≤ 1.0	> 1.5	USDA 918 RL D1-76
Aflatoxin*	< 0.25 ppb	> 0.50 ppb	AOAC 18 th Ed.991.31
Pesticides*	< FDA Std	> FDA Std	AOAC 18 th Ed.991.31
Heavy Metals*	< FDA Std	> FDA Std	AOAC 18 th Ed.991.31

E. **Microbiological Properties:**

	<u>Guideline</u>	<u>Action Level</u>	<u>Method</u>
Standard Plate Count (spc/g)	<10,000/g	>10,000/g	SMDP 16 th Ed. 6.2
Coliforms (col/g)	<10	>10/g	SMDP 16 th Ed. 7.8
Salmonella	Negative	Positive	AOAC 2004.03VIDAS
Listeria	Negative	Positive	AOAC 999.06VIDAS
Staphylococcus Aureus	Negative	Positive	AOAC 2003.08
E.Coli	Negative	Positive	AOAC 991.14(P)
Yeast/Mold	<10	>10	AOAC 997.02 (P)
Mesophilic Aerobic	<10,000/g	>10,000/g	APHA, CMMEF 18.1-19.6



* Tests performed annually on raw milk/as needed

F. **Shipping, Shelf Life & Storage:** Non Fat Dry Milk should be stored and shipped at room temperatures (50 - 80 °F). The shelf life of NFDM is expected to be one year from the production date. Raw milk used to produce NFDM shall not be stored in any vessel longer than 72 hours.

MDVA-QF-99DM

Manufacturing Division: 8321 Leishear Road, Laurel, MD 20725 Plant # 24-19

A. Low Heat

		Michigan Milk Producers Association 41310 Bridge Street Novi, MI 48376 Phone: 248-474-6672 Fax 248-442-5695			
Product Category:	Non Fat Dry Milk – Spray Processed	Effective:	09/06/2012		
Product Name:	Grade A – Nonfat Dry Milk – Low Heat	Supersedes:	N / A		
Specification #	Issued By: John Connolly	Approve By:	Jim Dodson		
1010100					

1.0 Description

Nonfat Dry Milk is the product obtained by the removal of only water from pasteurized skim milk and does not contain any added preservative, neutralizing agent, or other chemicals.

2.0 Physical & Chemical Characteristics

Characteristic	Value	Test Method	COA
Butterfat	≤ 1.25 %	SMEDP	X
Moisture	≤ 4.00 %	SMEDP	X
Scorched Particles	≤ 15.0 mg "B" pad	SMEDP	X
Solubility	≤ 1.2 ml	SMEDP	
Titrateable Acidity	≤ .15 %	SMEDP	X
Total Protein	33% - 38%	SMEDP	
Whey Protein Nitrogen	≥ 6.00 mg/g	SMEDP	X
pH	6.4 – 7.2	SMEDP	X
Color	White to light Cream / natural color	Visual Inspection	
Sensory	Free from Objectionable Flavor or Odors	Organoleptic	X
Antibiotic	Negative (Compliant PMO; Appendix N)	SMEDP	X

3.0 Microbiological Characteristics



Characteristic	Value	Test Method	COA
Standard Plate Count	≤ 5,000 cfu / g	BAM - AOAC	X
Coliform	< 10 cfu / g	BAM - AOAC	X
Escherichia Coli	< 10 cfu / g	BAM - AOAC	X
Yeast & Mold	< 10 cfu / g	BAM - AOAC	X
Coagulase-positive staph aureus (50 g)	< 10 cfu / g	BAM - AOAC	X
Listeria (375 g)	Negative	BAM - AOAC	X
Salmonella (750 g)	Negative	BAM - AOAC	X

4.0 Miscellaneous Descriptions



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

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1010100					

Item	Requirement	COA
Allergens	Milk	
Ingredients	Skim Milk	
Shelf Life (from Mfg. Date)	12 months	
Storage Temperature	Dry environment, ambient temperatures	
Shipping Temperature	Same as storage	
Kosher Certificate	Council of Orthodox Rabbis of Greater Detroit	
Halal Certificate	The Islamic Food & Nutrition Council of America	
Pasteurization	Low heat 162.0 °F to 175.0 °F for ≥ 15.0 seconds	

5.0 Nutrition Facts

Component	Value	Component	Value
Calories (Kcal)	362	Potassium (mg)	1794
Calories from fat	7	Vitamin A (IU)	22
Total fat (g)	.77	Vitamin C (mg)	6.8
Saturated fat (g)	.499	Calcium (mg)	1257
Cholesterol (mg)	20	Iron (mg)	.32
Total Carbohydrate (g)	51.98	Riboflavin (mg)	1.55
Sugars (g)	51.98	Phosphorus (mg)	968
Protein (g)	36.16	Ash (g)	7.93
Sodium (mg)	535	Moisture (g)	3.16



- Calculated value of 100 grams of Nonfat Dry Milk based on USDA National Agricultural Library – Agricultural Research Service NDB No: 01091. Analysis may be need for these nutrients as they occur in the final product as required by CFR Title 21, Section 1019.


6.0 Statements

- MMPA Nonfat Dry Milk meets all requirements of North American Free Trade Agreement (NAFTA).
- Products manufactured by Michigan Milk Producers Association do not contain gluten
- MMPA Products are exempted from OSHA Hazard Communication Standard #303 since they are subject to Food and Drug Administration labeling requirements.
- This product was produced from raw milk meeting the somatic cell (≤ 400,000 per ml.) and bacterial standard plate count (≤ 100,000 per ml.) requirements of Regulation (EC) No 853/204 Annex III, Section IX, Chapter I, III Criteria for Raw Milk.


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Product Name:	Grade A – Nonfat Dry Milk – Low Heat	Supersedes:	N / A		
Specification #	Issued By: John Connolly	Approve By:	Jim Dodson		
1010100					


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

7.0 Plants

	MMPA - Ovid	MMPA - Constantine
Address	431 Williams Street, Ovid MI 48866	125 Depot Street, Constantine, MI 49042
Phone / Fax	Phone 989-834-2221 Fax 989-834-2486	Phone 269-435-2835 Fax 269-435-8310
Plant Identification	IMS 26-123 Europe 1810532	IMS 26-608 Europe 1810166
Bioterrorism Act	15067918418	1581354300
Shipping Hours	Monday – Friday 8:00 AM to 3:30 PM	Monday – Friday 7:00 Am – 3:00 PM

8.0 Packaging

Dimensional Information

Product Code	Description	Product Weight	Bag Height/Length/Width	UPC Code	Layer / Tiers	Pallet Heights	Product Weight per Pallet
1010100	50# Grade A LH NFDM	50.0 lbs	34.0"x4.0"x16.0" Multiwall Kraft bags with polyethylene inner liner	0 77777 10400 2	5 /10	51 "	2,500 lbs.
1010410	2,000# Grade A LH NFDM tote	2,000 lbs	48.0"x40.0"x57.0"	N / A	1	61"	2,000 lbs
1010420	2,200# Grade A LH NFDM tote	2,200 lbs	48.0"x40.0"x57.0"	N / A	1	61"	2,200 lbs

Powder Coding

Ovid	Constantine
MFG DATE/LOT NO. 02-05-07V	MFG DATE/LOT NO. 02-05-07C
SUB LOT 001-001	SUB LOT NO. 001-001
100 Bags per lot	100 Bags per lot

9.0 Product Specification History

Effective Date	Revision	Reason for Change / Initiator	Approved By:
09/06/2012	0	Specification birth date, J. Connolly	<i>Jim Dodson</i>

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