

Nonfat Dry Milk- Instructions for Use

Intended Use

BACGro™ Nonfat Dry Milk (NFDM) is intended for use in the preparation of microbiological culture media, and aids in the differentiation of organisms based on coagulation and digestion of casein protein. A 10% solution of NFDM is also used in the pre-enrichment of candy products (including chocolate) for the detection of *Salmonella*.

Product Summary

Nonfat Dry Milk is spray-dried, powdered milk. When reconstituted as a 10% solution in deionized water, it is equivalent to Nonfat milk. NFDM contains no more than 5% moisture by weight following the spray-drying process, and no more than 1.5% milk fat. Additionally, NFDM contains 34-37% protein by weight, and 49.5-52% lactose. Because of its use in food manufacturing, it also must meet certain microbiological standards, including aerobic plate counts of <10,000 CFU/g, and test negative for *Salmonella*, *E. coli*, *Listeria*, and coagulase-positive *Staphylococcus*.

A 10% solution of NFDM is recommended by the FDA's Bacteriological Analysis Manual (BAM)¹ for the enrichment of candy products, including chocolate.

Formulation (per Liter)*

Nonfat Dry Milk	100 g
Total	100 g/L

*Formula may be supplemented and/or adjusted as required to meet performance criteria

Directions

1. To prepare a 10% solution, add 100 g of NFDM to 1 L of deionized water.
2. Stir to dissolve completely.
3. Autoclave at 121 degrees Celsius for 15 minutes. Do not overheat.
4. Cool prior to use.

Precautions

This product is for laboratory use only and should only be used by qualified, trained laboratory personnel. Personnel should always use proper aseptic technique and observe all biohazardous precautions. All microbiological cultures should be presumed to be infectious.

Avoid ingestion, inhalation, or contact with skin and mucous membranes. If contact occurs, flush the area with clean water.

Quality Control Specifications

Gold Standard Diagnostics tests each lot of manufactured BACGro™ culture media utilizing appropriate control organisms and specifications as documented on the Certificate of Analysis. End users should perform quality control testing in accordance with government regulatory requirements and accreditation guidelines. The following specifications are routinely used for testing:

Appearance (dehydrated): White to off-white, homogenous, free flowing powder, free of debris

Appearance (prepared): Off-white to white opalescent solution, with no precipitate or debris. After autoclaving, the solution may appear beige and opaque. Overheating the solution will cause further darkening.

pH (prepared): 6.0 – 6.6 at 25°C

Organism Performance:

Strain ID	Inoculum	Incubation			Result
		Time	Temp.	Environment	
<i>E. coli</i> (ATCC® 25922)	<100 CFU	1-7 days	37° C	Aerobic	Growth, Solid curd
<i>C. perfringens</i> (ATCC® 13124)	<100 CFU	1-7 days	35° C	Aerobic	Growth, stormy fermentation

Limitations of the Procedure

This product is not labeled for use as a medical device, and is not intended to diagnose, treat, or prevent disease.

Due to variation in nutritional requirements, some strains may be encountered that grow poorly in this medium.

Further testing is required for the identification and confirmation of any organisms.

Storage and Expiration

BACGro™ Nonfat Dry Milk should be stored at 2 – 30 degrees Celsius. Because of the hygroscopic nature of dehydrated culture media, it should be stored in a dry place and the lid should remain tightly sealed. Media should be discarded if it is not free flowing or shows discoloration.

The expiration date printed on the label is applicable to media stored as directed.

Catalog Numbers

DCM1610- Nonfat Dry Milk, 10kg

¹ US Food and Drug Administration. *Microbiological Methods and Bacterial Analytical Manual (BAM)*.

<https://www.fda.gov/food/laboratory-methods-food/microbiological-methods-bacteriological-analytical-manual-bam>

Revision History:

Revision	Description	Effective Date
03	Updated pH specification to 6.0 – 6.6 to match PWS.	13-MAR-2024
02	Periodic Review. No changes required.	07-MAR-2023
01	Document creation	09-OCT-2020