

# Nutritional Composition, Bioactive Fortification, and Safety Standards of Complementary Infant Cereal

An Analytical Monograph on My Baby™ Mixed Fruits (5 Fruits) Cereal with Wheat & Milk

**PREPARED FOR:** Pediatricians, Physicians & Clinical Nutrition Specialists | **Focus:** Complementary Feeding & Microbiome Integration



Figure 1: Infant in the targeted complementary feeding stage (6–36 months).

**400 g**

NET PACKAGE WEIGHT

**6–36**

TARGET AGE (MONTHS)

**DSM 17938**

PROBIOTIC STRAIN

**Halal**

CERTIFIED COMPLIANCE

**Abstract:** Transitioning from exclusive breastfeeding to complementary feeding (ages 6 to 36 months) is a critical developmental window. This monograph analyzes the formulation of *My Baby™ Mixed Fruits Cereal with Wheat & Milk*, evaluating its nutritional architecture, functional biotics including *Lactobacillus reuteri* DSM 17938 and bovine colostrum, fatty acid profiles (DHA, ARA), and essential micronutrient density. Furthermore, it outlines safety protocols regarding pathogenic microorganism risks, compliance with Bangladesh National Infant Breastmilk Substitute Regulations, and international manufacturing standards.

## 1 BACKGROUND & CLINICAL RATIONALE

Around six months of age, an infant's energy and micronutrient demands exceed what is provided by breast milk alone. The introduction of complementary foods must balance macronutrients and micronutrients without displacing the immunological benefits of maternal milk. *My Baby™ Mixed Fruits Cereal* is structured as a cereal-based complementary food incorporating five fruits, refined wheat flour, skimmed milk powder, and bioactive fortificants.

2

BIOACTIVE & FUNCTIONAL INGREDIENTS PROFILE



Figure 2: Toddler in the complementary feeding window.

Probiotic: *Lactobacillus reuteri* DSM 17938

Enriched with live *L. reuteri* DSM 17938, a human-derived probiotic strain demonstrated in clinical literature to reduce infantile colic, modulate gut microbiota colonization, and enhance mucosal intestinal immunity.

Immunological Support: Bovine Colostrum

Contains bovine colostrum, rich in natural immunoglobulins (IgG), lactoferrin, and growth factors that fortify gut barrier function and protect against enteropathogens during the complementary feeding transition.

Essential Fatty Acids: DHA & ARA

Formulated with Docosahexaenoic Acid (DHA) and Arachidonic Acid (ARA) freeze-dried matrices to support central nervous system maturation and visual acuity development in early childhood.

Prebiotic Oligosaccharides: FOS & GOS

Integrates Fructo-oligosaccharides (FOS) and Galacto-oligosaccharides (GOS) to selectively stimulate beneficial bifidobacteria in the distal colon, promoting optimal stool consistency.

FUNCTIONAL FOCUS MAP

| Ingredient           | Gut microbiota | Barrier & immunity | Neuro-visual | Functional note (as stated in monograph)                     |
|----------------------|----------------|--------------------|--------------|--------------------------------------------------------------|
| L. reuteri DSM 17938 | ✓              | ✓                  | ○            | Human-derived strain; clinical literature on infantile colic |
| Bovine colostrum     | ○              | ✓                  | ○            | IgG, lactoferrin, growth factors; enteropathogen protection  |
| DHA & ARA            | ○              | ○                  | ✓            | CNS maturation and visual acuity development                 |
| FOS & GOS            | ✓              | ○                  | ○            | Stimulate bifidobacteria in distal colon; stool consistency  |

Map derived from the functional statements in this monograph; it is not a comparative efficacy claim.

ADDITIONAL BIOACTIVE FORTIFICANTS

- Taurine
- Lutein
- Inositol
- Choline Bitartrate
- L-Carnitine Tartrate

“Complementary foods must balance macronutrients and micronutrients without displacing the immunological benefits of maternal milk.”

3 COMPREHENSIVE BIOCHEMICAL COMPOSITION

The formulation combines vegetable oils (sunflower, rapeseed, soy, palm), maltodextrin, fatty acid mono- and diglycerides, along with specialized active compounds including Taurine, Lutein, Inositol, Choline Bitartrate, and L-Carnitine Tartrate.



FORMULATION ARCHITECTURE

|                                    |                                     |                                                   |                                                                          |
|------------------------------------|-------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------|
| CEREAL BASE<br>Refined wheat flour | FRUIT COMPONENT<br>Five-fruit blend | DAIRY<br>Skimmed milk powder (New Zealand origin) | FAT & CARBOHYDRATE<br>Vegetable oils; maltodextrin; mono- & diglycerides |
|------------------------------------|-------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------|

|                        |                                                                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Essential Minerals     | Trisodium Citrate, Ferric Pyrophosphate, Calcium Carbonate, Magnesium Carbonate, Potassium Iodate, Manganese Sulfate, Copper Sulfate, Zinc Oxide, Sodium Selenite.                  |
| Fat-Soluble Vitamins   | Vitamin A (Retinyl Acetate), Vitamin D3 (Cholecalciferol), Vitamin E (DL-Alpha-Tocopherol Acetate), Vitamin K1 (Phytonadione).                                                      |
| Water-Soluble Vitamins | Vitamin C (Sodium L-Ascorbate), Thiamine HCl (B1), Riboflavin (B2), Niacinamide (B3), Pyridoxine HCl (B6), Folic Acid (B9), Cyanocobalamin (B12), Calcium D-Pantothenate, D-Biotin. |
| Specialized Bioactives | DHA, ARA, FOS, GOS, Bovine Colostrum, Taurine, Lutein, Inositol, Choline Bitartrate, L-Carnitine Tartrate, <i>Lactobacillus reuteri</i> DSM 17938.                                  |

COMPOUND-TO-NUTRIENT KEY

|                                |                              |                           |                             |
|--------------------------------|------------------------------|---------------------------|-----------------------------|
| Iron<br>Ferric Pyrophosphate   | Calcium<br>Calcium Carbonate | Magnesium<br>Mg Carbonate | Iodine<br>Potassium Iodate  |
| Manganese<br>Manganese Sulfate | Copper<br>Copper Sulfate     | Zinc<br>Zinc Oxide        | Selenium<br>Sodium Selenite |

**Note for practitioners:** quantitative per-100 g nutrient values are not stated in the source monograph. Please refer to the nutrition panel on the product label for exact amounts.

## 4 PREPARATION PROTOCOLS & FEEDING GUIDELINES



Figure 4: Infants in the complementary feeding stage.

### STANDARD RECONSTITUTION RATIO

**75 mL**

boiled water, cooled to 40°C

+

**25 g**

cereal powder

= 4 level scoops (inside the tin)

Reconstitute thoroughly with a clean spoon.

### AGE-BASED FEEDING FREQUENCY • 6 MONTHS OF AGE

**2 to 3 feeds per day**



### AGE-BASED FEEDING FREQUENCY • 8 TO 36 MONTHS OF AGE

**3 to 4 feeds per day**



Always feed using a clean spoon.

### CRITICAL MICROBIOLOGICAL SAFETY WARNING



To reduce infant health risks, be aware that pathogenic microorganisms may be present in powdered infant formulations. Water must be boiled for 5 minutes and cooled to 40°C before mixing. Failure to strictly follow hygiene and preparation instructions may compromise infant health. Never store leftover prepared cereal.

## 5 COMMERCIAL TRACEABILITY & REGULATORY REGISTRATION

|                         |                                                                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brand Owner & Marketing | UNIQUE EXPERTISE ASSOCIATES LIMITED, Chowdhury Villa, Holding 9/3, 4th Floor, Block-B, Road 01, Mirpur-06, Dhaka-1216, Bangladesh. (Email: unique2026nd@gmail.com)                        |
| Importer                | Family Products Incorporation, 153/5 Tejgaon Industrial Area, Dhaka-1208, Bangladesh.                                                                                                     |
| Manufacturer & Origin   | Nova Nutrition Pharma Co., Ltd., 218/22 Nguyen Van Huong St., Thao Dien Ward, Thu Duc City, Ho Chi Minh City, Vietnam. Milk powder sourced from New Zealand. Blended & packed in Vietnam. |
| Regulatory Approvals    | IPHN Registered No: CF190829096 • Standards BSTI BDS CAC 174 • Halal Certified.                                                                                                           |

### STATUTORY HEALTH NOTICE & REGULATORY DECLARATION

"Breastmilk substitute or equivalent infant foods are not the sole source of infant nutrition"

মাতৃদুগ্ধ বিকল্প, শিশু খাদ্য শিশুর পুষ্টির মূল উৎস নহে

Breastfeeding must continue alongside complementary feeding.