

**Technical Specifications for-
Ready-to-Use Therapeutic Food
RUTF**

1. INTRODUCTION

1.1 Product purpose

RUTF is a smooth, homogeneous, thick paste containing ground peanuts, sugar, oil, milk powder and vitamin and mineral premix. It is squeeze out of sachet and given to the infant or child directly.

Used during the period of SAM treatment, RUTF is the sole source of food, except for breast milk in the case of breast-fed infants. It is ready to eat, directly from the sachet; does not require cooking, mixing or dilution. RUTF paste is portion controlled: each sachet has the same nutritional value for control and monitoring of dietary intake.

1.2 Product type

Therapeutic spread, sachet 92g/CAR-150 Ready-to-Use Therapeutic Food (RUTF) paste, is a high-energy fortified food used for the treatment of Severe Acute Malnutrition (SAM.) Each 92g sachet contains approximately 500 calories, vitamins and minerals..

1.3. Quality and safety

RUTF shall be manufactured within a quality and food safety management environment in accordance with latest version of recognized international standards and best practices and/or guidelines, such as:

- Recommended International Code of Practice. General Principles of Food Hygiene CAC/RCP 1-1969, of the Codex Alimentarius
- General principles for addition of essential nutrients to foods: CAC/GL 09-1987, of the Codex Alimentarius
- ISO 22000:2005: Food safety management systems
- ISO/TS 22004 – Guidance on the application of ISO 22000:2005

2. INGREDIENTS

2.1 Generic requirements

RUTF shall be manufactured from ingredients that are fresh, of good quality, free from foreign materials and substances hazardous to health, that comply with Codex Alimentarius or relevant regulations. In particular, the latest version of the following Codex standards and guidelines shall apply:

- Codex Guideline CAC/GL 08-1991
- Codex Stan 193-1995. In particular melamine shall remain below 2.5 mg/Kg in dairy source used
- Codex Stan 200-1995 for peanut and peanut used to produce peanut paste
- Codex Stan 171-1989 for chick pea and soybean
- Codex Stan 175-1989 for soy protein
- Codex Stan 210-1999 for oil and for oil used to produce shortening

- Codex Stan 212-1999 for sugar
- Codex Stan 207-1999 for sources of dairy protein
- Codex Stan 73-1981 for flavoring and antioxidants, including carry over from ingredients. In particular artificial flavoring and synthetic antioxidant such as Butylhydroxyanisol (BHA), Butylated hydroxytoluene (BHT), and tertiary butylhydroquinone (TBHQ) are not authorized.

Additionally:

- The **RUTF** supplier shall test melamine at least once a year for each individual source of dairy protein used.
- Honey is prohibited due to a safety hazard.

2.2 Vitamin and mineral premix

RUTF shall include a premix consisting of the vitamins and minerals described below (2.2.1 / 2.2.2 / 2.2.3), the premix shall:

- Be purchased from GAIN Premix Facility or any of the GAIN approved suppliers, as per the list available at the following link: <http://gpf.gainhealth.org/suppliers/current-suppliers>
- Be delivered to the processor of **RUTF** with a complete Certificate of Analysis.
- Micronutrient premixes shall be stored as per manufacturer recommendations.

2.2.1 Nutritional composition per 100 g of RUTF paste

Moisture content: 2.5% maximum

Water activity: 0.6 maximum

Energy: 2176-2301kJ

520-550 kcal

Proteins*: 10-12% total energy

12.8-16.2% by weight

Lipids: 45-60% total energy

25.8-36.3% by weight

n-6 fatty acids: 3-10% total energy

n-3 fatty acids: 0.3-2.5% total energy

Trans-fatty acids: <3% total fat

Fibre: <5%

Free Sugar <20% of total energy

At least half of the protein contained in RUTF paste comes from milk/dairy products.

2.2.2 Minerals per 100g of RUTF paste:

Sodium: 290 mg maximum

Potassium: 1100-1400 mg

Calcium: 300-600 mg

Phosphorous*: 300-600 mg

Magnesium: 80-140 mg

Iron: 10-14 mg

Zinc: 11-14 mg

Copper: 1.4-1.8 mg

Selenium: 20-40 micrograms (µg)

Iodine: 70-140 micrograms (µg)

* Expressed in terms of non-phytate Phosphorus

2.2.3 Vitamins per 100g RUTF paste:

Vitamin A (Retinol Equivalent): 0.8-1.1mg
Vitamin B1(Thiamine): 0.5 mg minimum
Vitamin B2(Riboflavin): 1.6 mg minimum
Vitamin B3(Niacin): 5 mg minimum
Vitamin B5(Pantothenic acid): 3 mg minimum
Vitamin B6(Pyridoxine): 0.6 mg minimum
Vitamin B7(Biotin): 60 µg minimum
Vitamin B9 (Folic acid): 200 µg minimum
Vitamin B12(Cyanocobalamin): 1.6 µg minimum
Vitamin C (Ascorbic acid): 50 mg minimum
Vitamin D (Cholecalciferol): 15-20 microgrammes (µg)
Vitamin E (Tocopherol): 20 mg minimum
Vitamin K (Phytonadione): 15-30 microgrammes (µg)

Additional requirements:

Sources of vitamins and minerals can often contain animal products. Certain countries may request **halal**, kosher or vegetarian certifications for **RUTF**. In these cases the supplier is requested to provide these certificates. Specific attention shall be paid to proteins, vitamin A and D as these are often manufactured using animal products as excipients.

RUTF shall be packed in cartons suitable for the humanitarian supply chain, each carton containing 150 individual sachets with a net weight of 92g each. Cartons shall be:

- New, manufactured from well-constructed double walled corrugated board,
- With an edge crush resistance of 11 kN/m (61 pounds per inch) and a specific weight of 700 to 800 grams per square meter. 60% of the edge crush resistance shall remain at 90% relative humidity and 40°C.
- Fully filled for maximum strength.

Inside containers: slip sheets or plywood shall be used to provide maximum stacking strength.

Pallets with appropriate stacking configuration could also be used.

2.3 Labelling

RUTF shall be labelled in accordance with latest version of recognized international standards and best practices and/or guidelines, such as

- Codex Stan 146-1985 - General standard for the labelling of and claims for pre-packaged foods for special dietary uses.
- Codex Stan 1-1985 - General standard for the labelling of pre-packaged foods

In addition **RUTF** shall be labelled in an appropriate language (English and Standard Arabic) as per Table 3 requirements.

Table 3: Generic label requirement:

	sachets	inside leaflet (optional)	outside box
Commercial name	Shall be kept simple and shall not reflect any medical purpose		
Product name	Ready-to-Use Therapeutic Food (RUTF)		
Target use	“To treat Severe acute malnutrition for children 6 months and older”		
Net weight	92G	-	150*92g
Nutrients content	-	Leaflet or box: in line with codex regulation and target defined in table 2	
Ingredient list	XX (All XX have to be filled by manufacturer.)		-
Preparation instruction	Generic pictogram that shows how food is eaten + Breastfeeding logo		
Storage instruction	“Best stored below 30°C, in dry and hygienic conditions” protect from direct sunlight		
Manufacturer name	Produced by: XX		
Manufacturer address	XX, including country of origin		
Manufacturer batch/lot number	XX	-	XX
Production date	XX		XX
Best Before Date	XX	-	XX
Other	-	"not for sale or exchange" “Contains no ingredients of animal origin besides dairy products”	
Donor and xxxx logo	-	as per contractual agreement	
Beneficiary feedback hotline (if required in the contractual agreement)	XX	-	XX

⁹ All XX have to be filled by manufacture

