

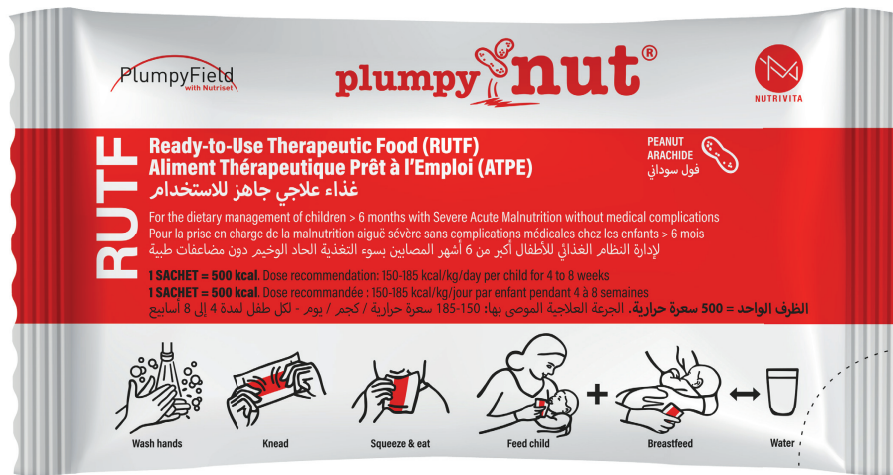
Peanut formula

RUTF

Ready-to-Use Therapeutic Food

Plumpy'Nut® Technical Data Sheet - Updated on 12/12/2023

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PRODUCT CONCEPT AND TARGET POPULATION

Plumpy'Nut is a Ready-to-Use Therapeutic Food (RUTF), especially designed for the dietary management of children from 6 months old with severe acute malnutrition without medical complications.

During their first years of life, children living in developing countries are most at risk of undernutrition. Children suffering from severe acute malnutrition are at risk of death or severe impairment of growth and development. That is why it is crucial to correct their nutritional status as soon as possible.

Plumpy'Nut is also suitable for adults suffering from severe acute malnutrition.

Plumpy'Nut can also be used for the treatment of moderate acute malnutrition in compliance with the national protocol of management of acute child malnutrition.

Use context

The invention of Plumpy'Nut revolutionized the management of severe acute malnutrition by making home treatment / ambulatory or outpatient care possible for severely malnourished children with an appetite and without medical complications (see references (2), (3), (4) and (5) at the end of the document).

Even though Plumpy'Nut can be used without supervision, it should be emphasized that the vulnerable condition of severely malnourished children treated with Plumpy'Nut requires a health practitioner's prescription and regular medical check-ups.

Product benefit

Children who fall under the cut-off for severe acute malnutrition (using Mid Upper Arm Circumference, Weight for Height Z-score or nutritional oedema) need to receive an adapted diet that allows them to regain a normal nutritional status. The diet particularly needs to account for a malnourished child's elevated nutrient and energy requirements for catch-up growth (see ref. (1) at the end of the document).

Plumpy'Nut was developed as an alternative to F-100 therapeutic milk, providing a similar nutritional value whilst being easier to use (see ref. (6) and (7) at the end of the document).

A lipid-based therapeutic food with a high vitamin and mineral content, such as Plumpy'Nut, is particularly well-adapted to the needs of children suffering from severe acute malnutrition.

The physico-chemical properties (low water activity < 0.6) of Plumpy'Nut prevent any bacterial proliferation. Plumpy'Nut can therefore be consumed and stored safely outside a nutrition center, enabling home treatment.

RECOMMENDATIONS FOR USE



Use

Handwashing and kneading the sachet are recommended before use. Plumpy'Nut can be consumed directly from the sachet without any preparation or dilution. It can be opened easily by tearing off one corner of the sachet.

Plumpy'Nut can be consumed by a child on his/her own without having to be helped by his/her mother or anyone else.

It is recommended to have safe drinking water always available for the child when Plumpy'Nut is used.

The physico-chemical properties (low water activity) of Plumpy'Nut prevent any bacterial proliferation. It is therefore important not to dilute this ready-to-use paste before consumption.

After opening, the sachet should be consumed within 24 hours.

Plumpy'Nut has to be prescribed and initiated by a trained health and nutrition professional only. Children suffering from severe acute malnutrition are to be treated under medical supervision. Medical supervision can be provided as inpatient or outpatient care. Children suffering from severe acute malnutrition treated with Plumpy'Nut should receive regular check-ups by a health practitioner during which they can also receive their next ration of Plumpy'Nut.

NB: Children below 6 months have to be exclusively breastfed and, if necessary, a specific regimen with adapted therapeutic products will be prescribed by a health practitioner.

Recommended dosage

	Dosage from 6 months old - Equivalent kcal / kg body weight / day (1 sachet = 500 kcal)
Severe acute malnutrition without medical complications	150-185 kcal / kg body weight / day until the targeted weight is reached for an average period of 4 to 8 weeks. Plumpy'Nut shall be used according to the national protocols on the management of severe acute malnutrition. If there is no national protocol, the standard regimen is 2 sachets per day for a child between 5 and 6.9 kg, 3 sachets per day for a child between 7 and 9.9 kg and 4 sachets per day for a child weighing more than 10 kg. For more details refer to the existing international and national guidelines (<i>see ref. (1) at the end of the document</i>).
Moderate acute malnutrition	40-60% of approximately 100-130 kcal / kg / day, i.e. 40-78 kcal / kg / day until the targeted weight is reached. For a child weighing 7 kg, 1 sachet of Plumpy'Nut per day would comply with this recommendation.

Plumpy'Nut is not adapted for well-nourished children nor well-nourished adults and its use should be limited to the rehabilitation of acute malnutrition.

Not to be shared with other members of the family.

Not to be used for Nasogastric Tube (NG tube) administration.



Does not replace breastfeeding.

Exclusive breastfeeding is recommended for the first 6 months of life, and continued breastfeeding is recommended for up to two years or beyond.

COMPOSITION

Plumpy'Nut is a paste of light brown to orange-brown color, with a typical flavor and odor of peanuts and milk.

Ingredients: skimmed milk powder, sugar, vegetable oils (palm, high oleic acid sunflower, flaxseed, canola, soy in varying proportions), peanuts, maltodextrin, premix of vitamins and minerals and L-Cysteine, fully hydrogenated vegetable oil (palm).

Allergens: peanuts and dairy products. May contain traces of soy. Does not contain any Genetically Modified Organisms (GMOs).

NUTRITIONAL VALUES

Nutrients	Unit	Per 100 g of Plumpy'Nut			Per 92 g of Plumpy'Nut	Nutrients	Unit	Per 100 g of Plumpy'Nut			Per 92 g of Plumpy'Nut
		Average or min.	Min.	Max.	Average or min.			Average or min.	Min.	Max.	Average or min.
Moisture	g	-	-	2.5	-	Pantothenic acid (vit. B5)	mg	3.0	3.0	-	2.8
Energy	kJ	2 274	2 176	2 301	2 092	Pyridoxine (vit. B6)	mg	0.6	0.6	-	0.6
Energy	kcal	543	520	550	500	Biotin (vit. B7)	µg	60	60	-	55
Fats	g	34	26	37	31	Folic acid (vit. B9)	µg	200	200	-	184
of which saturated fatty acids	g	11	-	-	10	Cyanocobalamin (vit. B12)	µg	1.6	1.6	-	1.5
of which ω-3 fatty acids	g	0.79	0.58	1.53	0.72	Ascorbic acid (vit. C)	mg	50	50	-	46
of which ω-6 fatty acids	g	4.2	1.7	4.3	3.9	Cholecalciferol (vit. D)	µg	15	15	22	14
of which trans fatty acids	g	< 1.1	-	1.1	< 1.1	Tocopherol (vit. E)	mg α-TE	20	20	-	18
of which trans fatty acids	% total fats	< 2	-	2	-	Phytomenadione (vit. K)	µg	15	15	30	14
Carbohydrates	g	46	-	-	42	Calcium (Ca)	mg	300	300	785	276
of which sugars (sucrose)	g	25	-	28	23	Copper (Cu)	mg	1.4	1.4	1.8	1.3
Dietary fibers	g	1.0	-	5.0	0.9	Iron (Fe)	mg	10	10	14	9.2
Proteins	g	14	13	17	13	Iodine (I)	µg	70	70	140	64
of which dairy proteins	% total proteins	67	50	-	-	Potassium (K)	mg	1 100	1 100	1 600	1 012
PDCAAS*	-	91	90	-	-	Magnesium (Mg)	mg	80	80	235	74
Salt (Na x 2.5)	g	0.3	-	-	0.3	Sodium (Na)	mg	121	-	290	111
Retinol (vit. A)	µg RE	800	800	1 600	736	Phosphorus (P)	mg	300	300	785	276
Thiamine (vit. B1)	mg	0.5	0.5	-	0.5	Selenium (Se)	µg	20	20	40	18
Riboflavin (vit. B2)	mg	1.6	1.6	-	1.5	Zinc (Zn)	mg	11	11	14	10
Niacin (vit. B3)	mg	5.0	5.0	-	4.6						

*Protein Digestibility Corrected Amino Acid Score (PDCAAS)

Plumpy'Nut complies with the "Guidelines for ready-to-use therapeutic foods (RUTF)" CXG 95-2022 of the *Codex Alimentarius*.

QUALITY STANDARD

Plumpy'Nut is manufactured in a "FSSC 22000 - Food Safety System Certification" certified factory and in accordance with the applicable texts of the *Codex Alimentarius* (Guidelines for ready-to-use therapeutic foods (RUTF) CXG 95-2022, General Principles of Food Hygiene CXC 1-1969; Code of Hygienic Practice for Low-Moisture Foods CXC 75-2015).

LOGISTICAL INFORMATION

Shelf life Best before **24 months** after the manufacturing date.

Storage

It is recommended to store Plumpy'Nut below 30 °C (86 °F), in a dry place, away from direct sunlight.

It is recommended not to stack the pallets.

In order to maintain the sachets intact, it is recommended:

- not to open the cartons with a knife;
- not to walk on the cartons.



Packaging

Product	Carton (sales unit)				Pallet*			
	Packaging type	Number of sachets / carton	Net weight / carton	Estimated gross weight / carton	Dimensions / carton	Number of: cartons per layer / cartons per pallet	Net weight / pallet	Est. gross weight / pallet (with pallet)
92 g sachet	150	13.80 kg	14.7 kg	393 x 282 x 175 mm	10 / 80	1104.00 kg	1194 kg	100 x 120 x 154 cm

*The loading plan can be adapted in relation to transport constraints or in order to optimize the loading of the containers.

PROGRAMMING INFORMATION

A carton of Plumpy'Nut can treat a child suffering from severe acute malnutrition (weighing approximately 7 kg) for 7 weeks. This estimation is intended to provide guidance for stock management.

LOCAL PRODUCTION

Since 2005, the Nutriset Group has developed a worldwide network of local producers, the PlumpyField® network, in order to facilitate access to and the availability of quality-controlled nutritional products in areas with a high prevalence of malnutrition. These partners manufacture and distribute products of the Nutriset range to the same quality standards and nutritional specifications.



PlumpyField network partners

Edesia USA info@edesianutrition.org	Meds & Food For Kids Haiti info@mfkhaiti.org	Nutrivita Foods India info@nutrivita.in
Hilina Enriched Foods Ethiopia info@hilinafoodseth.com	Nutriguinée Guinea contact@nutriguinee.com	Samil Sudan nada@yagoubgroup.com
InnoFaso Burkina Faso contact@innofaso.com	Nutri K Nigeria contact@nutrik.com	Société de Transformation Alimentaire Niger direction@sta.ne
JB / Tanjaka Food Madagascar tanjakafood@basan.mg	Nutriset France operations@nutriset.fr	

REFERENCES

1) WHO "Guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years" (2023).

Many field trials have been conducted by researchers either independently or in partnership with the Nutriset Group. Some of these study results have been published in leading medical journals.

Studies have shown that Plumpy'Nut provided as home-based treatment enables a severely malnourished child to rapidly regain normal body weight:

- Collins S and Sadler K. "Outpatients care for severely malnourished children in emergency relief programmes: a retrospective cohort study". Lancet. (2002); 360:1824-30.
- Manary et al. "Home based therapy for severe malnutrition with ready-to-use food". Arch Dis Child. (2004); 89: 557-61.
- Ciliberto MA. "Home-based therapy for oedematous malnutrition with ready-to-use therapeutic food". Acta Paediatr. (2006); 95:1012-5.
- Briend A et al. "Ready-to-Use therapeutic food for treatment of marasmus". Lancet. (1999); 353:1767-8.

Weight gains obtained with Plumpy'Nut are higher than those obtained with F-100 therapeutic milk in the nutritional rehabilitation phase of severely malnourished children in feeding centers:

- Diop el HI. "Comparison of the efficacy of solid ready-to-use and a liquid, milk-based diet for the rehabilitation of severely malnourished children: a randomised trial". Am J Clin Nutr. (2003); 78:302-7.
- Ciliberto et al. "A comparison of home-based therapy with ready-to-use therapeutic food with standard therapy in the treatment of malnourished Malawian children: a controlled, clinical effectiveness trial". Am J Clin Nutr. (2005); 81: 864-70.

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