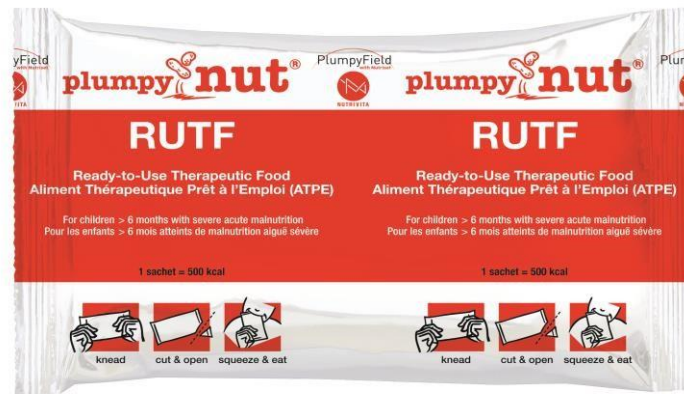




plumpy nut[®]



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Plumpy'Nut[®] is part of a range of products patented by IRD / NUTRISET

Plumpy'Nut[®] is a Ready-to-Use food, **especially designed for the nutritional rehabilitation of severely acute malnourished children.**

Plumpy'Nut[®] corresponds to the definition of "RUTF" (**Ready-to-Use Therapeutic Food**) that can be found in scientific literature related to the treatment of severe acute malnutrition.

Product concept and target population

Target population

Plumpy'Nut[®] was initially designed for the treatment of severe acute malnutrition in children (from 6 months of age). Children below 6 months have to be exclusively breastfed, or if necessary a specific regimen with adapted therapeutic products will be prescribed by a clinician.

Plumpy'Nut[®] is also suitable for **adults suffering from severe acute malnutrition.**

Plumpy'Nut should not be shared with other members of the family.

Plumpy'Nut[®] can also be used for the treatment of moderate acute malnutrition, in the event other products particularly adapted are not available.

Plumpy'Nut[®] should not be given to people who are allergic to cow milk or to peanuts.

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 (4), (5), (6) and (7) at the end of the document)

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

During the 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 psychological development. That's why it is crucial to correct the nutritional status in these young age groups as soon as possible.

Product benefit

Children who fall under the cut-off for severe acute malnutrition (using Mid Upper Arm Circumference, Weight/Height ratio, and/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 reference (1), (2) and (3) at the end of the document)

[®] Plumpy'Nut was developed as an alternative to F100 therapeutic milk providing the same mean nutritional value, but without the same use constraints.

A lipid-based nutritional supplement with a high vitamin and mineral content, such as **Plumpy'Nut[®]**, is well-adapted to the needs of severe acute malnourished children.

[®] Plumpy'Nut can be safely used and stored outside the rehabilitation center, enabling home treatment. (see the "Storage" paragraph page 5)

Recommendations for use

Preparation

Plumpy'Nut[®] can be used directly, as it is, without prior preparation.

Use

[®]



Plumpy'Nut can be eaten directly from the sachet without prior cooking or dilution with water. The sachet can easily be opened by tearing off one corner of the sachet.

[®]

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

It is recommended to have water suitable for drinking always available for the child when Plumpy'Nut[®] is used.

After opening, the sachet can be used within 24 hours.

[®]

Plumpy'Nut has to be prescribed and initiated by a trained health and nutrition professional only. Severely malnourished children are treated under medical supervision. Medical supervision can be provided as inpatient or outpatient care. Severely malnourished children 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[®].

Recommended dosage

Plumpy'Nut[®] shall be used according to the national protocols on the management of severe acute malnutrition. If there is no national protocol, 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 more than 10 kg, for an average period of 6 to 8 weeks. For more details on dosage and length of treatment refer to the existing international and national guidelines. (see reference (1), (2) and (3) at the end of the document)

	From 6 months of age Severe acute malnutrition	Moderate acute malnutrition
Dosage Equivalent kcal / kg body weight/ day	200 kcal / kg body weight / day until the targeted weight is reached	75 kcal / kg body weight / day until the targeted weight is reached <i>That is about 1 sachet per day for a moderate acute malnourished child weighting 7 kg</i>

Plumpy'Nut[®] is not adapted for well-nourished children nor adults.

Plumpy'Nut[®] use should be limited to the treatment of acute malnutrition.

Plumpy'Nut[®] does not replace breastfeeding.

Immediate breastfeeding after birth exclusively during the first 6 months and recommended for at least 24 months.

Ingredients

Peanuts, sugar, skimmed **milk** powder, vegetable oils (rapeseed, palm, soy in varying proportions), stabilizer (fully hydrogenated vegetable fat, mono and diglycerides), vitamin and mineral complex.

Allergens: **peanuts** and **milk**. May contain traces of **soy**.

Note: trans fatty acids < 3% of total fatty acids.

Plumpy'Nut[®] complies with the nutritional composition recommended by the document « Community-based management of severe acute malnutrition » (see reference (3) at the end of the document).

Plumpy'Nut[®] does not contain any ingredients of animal origin, except dairy products.

Plumpy'Nut[®] is a paste of light brown to orange brown color, with typical flavor and odor of peanut and milk.

Mean nutritional value

	For 100 g of Plumpy'Nut®		For 92 g (serving size)*		For 100 g of Plumpy'Nut®		For 92 g (serving size)*
	Min*	Max*			Min*	Max*	
Energy	520 kcal	550 kcal	500 kcal	Iron	10 mg	14 mg	10.3 mg
Proteins (% of total energy)	10% of energy	12% of energy	11.2% of energy	Iodine	70 µg	140 µg	117 µg
Proteins	14 g	16.2 g	14 g	Selenium	20 µg	40 µg	29 µg
% of milk proteins	50% of total proteins	-	> 50% of total proteins	Sodium	-	290 mg	100 mg
PDCAAS (Protein Digestibility-Corrected Amino Acid Score)	> 0.95	-	1	Vitamin A	0.8 mg	1.1 mg	0.79 mg
Lipids (% of total energy)	45% of energy	60% of energy	56% of energy	Vitamin D	15 µg	20 µg	14 µg
Lipids	31.7 g	36.1 g	31.2 g	Vitamin E	20 mg	40 mg	18.4 mg
Fatty acid n-6 (% of total energy)	3% of energy	10% of energy	≈ 10 % (= 5.4 g)	Vitamin C	50 mg	125 mg	46 mg
Fatty acid n-3 (% of total energy)	0.3% of energy	2.5% of energy	≈ 0,4 % (= 0,22 g)	Vitamin B1	0.5 mg	1.3 mg	0.46 mg
Carbohydrates	36 g	44 g	40 g (≈ 32% of total energy)	Vitamin B2	1.6 mg	2.6 mg	1.5 mg
Fibre content	-	< 5%	< 5%	Vitamin B6	0.6 mg	1.1 mg	0.55 mg
Moisture	-	2.5 %	2.5 %	Vitamin B12	1.6 µg	3.0 µg	1.5 µg
Calcium	300 mg	460 mg	315 mg	Vitamin K	15 µg	30 µg	14.4 µg
Phosphorus of which: Free Phosphorus	337 mg 300 mg	470 mg 375 mg	354 mg 292 mg	Biotin	60 µg	100 µg	56 µg
Potassium	1035 mg	1590 mg	1171 mg	Folic acid	200 µg	274 µg	184 µg
Magnesium	80 mg	115 mg	82 mg	Pantothenic acid	3 mg	6 mg	2.8 mg
Zinc	11 mg	14 mg	12.2 mg	Niacin	5 mg	8 mg	4.6 mg
Copper	1.4 mg	1.8 mg	1.5 mg				

*The values indicated in this table are based on the PlumpyField network's knowledge of the intrinsic nutritional properties of the raw materials and their variability, as well as on the variability of the processes used.

Quality standards

®

Plumpy'Nut complies with the microbiological criteria recommended by the document « Community-based management of severe acute malnutrition » (see reference (3) at the end of the document) and/or the « Arrêté du 1 juillet 1976 relatif aux aliments destinés aux nourrissons et aux enfants en bas âge, version consolidée au 26 février 2005 » from French regulations.

® Plumpy'Nut complies with the "Guidelines for Formulated Supplementary Foods for Older Infants and Young Children" of the *Codex Alimentarius* CAC/GL 08-1991.

All added mineral salts and vitamins included in Plumpy'Nut® are on the "Advisory Lists of Nutrient Compounds for Use in Foods for Special Dietary Uses intended for Infants and Young Children" of the *Codex Alimentarius* Standard CAC/GL 10-1979 (amended 1983, 1991, 2009).

All raw materials are "food grade" in compliance with general recommendations of *Codex Alimentarius* (STAN 200-1995, STAN 207-1999, STAN 212-1999).

Plumpy'Nut® is packaged under protective atmosphere in order to optimize the product's shelf life, and sachets are air and humidity tight.

Packaging material of the sachet is suitable for food contact according to European Regulation 1935/2004, 27th October 2004.

Best Before End date

Best Before End date (« BB end ») is **24 months** from the manufacturing date stated on each sachet.

After opening, the sachet can be used within 24 hours.

Storage

It is recommended to keep the product in a dry and cool place, at a temperature below 30°C (86°F), away from direct sunlight.

Plumpy'Nut[®] is a ready-to-use paste that does not need to be mixed with water, and that doesn't allow bacterial proliferation because of its low water activity ($a_w < 0.6$) (see *reference (7) at the end of document*). Plumpy'Nut[®] can therefore be safely used and stored outside the rehabilitation center, enabling home treatment.

It is recommended not to stack the pallets.

The shipping cartons are designed to withstand long transport times. Their size was chosen to optimize the various possible kinds of shipment.

Serving size unit

92 g sachet providing 500 kcal.

Loading plan

	CARTON
Unit	150 sachets of 92 g
Net Weight	13,8 kg
Estimated Gross Weight	14,7 kg
Dimensions	39,3 x 28.2 x 17.5 cm

	20ft FCL container	20ft FCL container	40ft FCL container	40ft FCL container
Type of loading	Bulk loading	Pallets loading (pallet size: 80 cm x 120 cm)	Bulk loading	Pallets loading (pallet size: 80 cm x 120 cm)
Unit	1'120 cartons	11 pallets of 68 cartons each = 748 cartons total	1'700 cartons	24 pallets of 68 cartons each = 1'632 cartons total
Net Weight	15'456.0 kg	10'322.4 kg	23'460.0 kg	22'521.6 kg
Estimated Gross Weight	16'464.0 kg	10'995.6 kg ~ 11'200.0 kg (with pallets)	24'900.0 kg	23'990.4 kg ~ 24'400.0 kg (with pallets)

A carton of Plumpy'Nut[®] can treat a severely acutely malnourished child (weighting 7kg) for 7 weeks.*

** This estimation is only meant to provide guidance for stock management. It is not intended to be used for ration calculation and does not take into account appetite or other criteria that are linked to the individual.*



Since 2005, Nutriset has developed a worldwide network of local producers (the PlumpyField network) in order to facilitate access and availability of qualitycontrolled nutritional products in areas with a high prevalence of malnutrition. These partners produce products of the Nutriset range and apply the same quality assurance system to ensure that the products produced locally meet the same quality standards and nutritional specifications.

Plumpy'Nut[®] is available from the following PlumpyField partners:

- In **Burkina-Faso** by **InnoFaso**, based in Ouagadougou omar.coulibaly@innofaso.com, M. Omar COULIBALY
- In the **USA** by **EDESIA**, based in Providence nutrition@edesia-global.org, Mrs. Navyn SALEM
- In **Ethiopia** by **Hilina Enriched Foods, P.L.C** based in Addis Abeba hbelete@hilinafoods.com, Mrs. Hilina BELETE
- In **Haiti** by **Meds & Food For Kids**, based in Cap-Haïtien pwolff@mfkhaiti.org, Mrs. Patricia WOLFF
- In **India** by **NutriVita Foods**, based in Pune nilkamal@nutrivita.in, M. Nilkamal JOSHI
- In **Madagascar** by **JB / Tanjaka Food**, based in Antananarivo thierry.barday@basan.mg, M. Thierry BARDAY
- In **Niger** by the **Société de Transformation Alimentaire (STA)**, based in Niamey direction@sta.ne, Mr. Ismaël BARMOU
- In **Sudan** by **SAMIL**, based in Khartoum hisham@yagoubgroup.com, Mr. Hisham S. YAGOUB

Last update: on the 02nd of December 2015

(1) WHO, "Management of severe malnutrition: a manual for physicians and other senior health workers". (1999)

(2) WHO, "Updates on management of severe acute malnutrition in infants and children" (2013)

(3) WHO/WFP/UNICEF/UNSCN "Community-based management of severe acute malnutrition, A Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund", (2007)

Many field trials have been conducted by researchers, either independently or in partnership with Nutriset. 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 a normal body weight:

(4) Collins S. and Sadler K. "Outpatients care for severely malnourished children in emergency relief programmes: a retrospective cohort study". Lancet (2002); 360:1824-30

(5) Manary et al. "Home based therapy for severe malnutrition with ready-to-use food". Arch Dis Child. (2004); 89: 557-61.

(6) Ciliberto MA. "Home-based therapy for oedematous malnutrition with ready-to-use therapeutic food". Acta Paediatr. (2006) ; 95:1012-5.

(7) Briend et al. "Ready-to-Use therapeutic food for treatment of marasmus". Lancet (1999) ; 353: 1767-8.

- Weight gain 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:

(8) Diop et al. "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.

(9) 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.

Nutriset's franchise product manufactured by: **Nutrivita Foods**
B-310, Everest Grande, Mahakali Caves Road,
Andheri (East), Mumbai-400093, India
At: AESSEAL Compound, Gate No. 85, At Post-Varve,
Tal-Bhor District-Pune-412 205, Maharashtra, India www.nutrivita.in
- info@nutrivita.in