



PRODUCT SPECIFICATIONS SHEET

Multiple Micronutrient Powder (MNP)
15 components

Material No: S1580201 (snd)

: S0000225 (cst)

Version 2.1

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1. General Description

Multiple Micronutrient Powder (MNP), 15 components, single-use 1-gram sachet, pack of 30 sachets. MNPs are designed for point of use fortification of complementary foods for children and vulnerable populations to address anemia and vitamin and mineral deficiencies.

1.1 Indications

Micronutrient supplementation/food fortification in emergencies. Micronutrient supplementation/food fortification in complementary foods for breast-fed infants. Micronutrient supplementation/food fortification for young children where dietary micronutrient intakes are insufficient.

1.2 Target Group

Multiple micronutrient powder is used for children aged 6 - 59 months.
Primary target: children aged 6 -24 months.

Applicable reference

WHO guideline: use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6–23 months and children aged 2–12 years¹

2. Technical Specifications

2.1 Raw Materials

All materials used shall be of food or pharmaceutical grade and their selection and approval must take into consideration origin, transport, storage, processing, handling, and the intended use of the finished product.

2.2 Vitamins and minerals

Vitamins and minerals used in the premix shall correspond to the monographs of the latest additions of official pharmacopoeias or Food Chemical Codex (FCC) for Identity and Purity criteria. MNPs may need to meet halal, vegetarian, and kosher requirements (See point 20).

Applicable reference

¹ <https://www.who.int/publications/i/item/9789241549943>

1. Monographs: BP, Ph.Eur, Ph.Int, USP
2. Food Chemicals Codex.
3. The latest available USP Monograph for Minerals and Vitamins Oral Powder Monograph USP 42

2.3 Excipients

The formulation shall be in the base of dextrose anhydrous, maltodextrin (DE 11-14) or another suitable carrier, with the addition of silica dioxide, tricalcium phosphate or other. Suitable flow agents. Excipients shall meet the requirements of not more than 5% moisture (loss-on-drying). Single nutrients contained within the MNP formulation that require antioxidants as excipients to prevent oxidation, shall be approved for use in young children.

Applicable reference

1. FCC Standard for food additives (1.3.4)
2. BP, Ph.Eur, Ph.Int, USP Pharmacopeial monographs for Oral powders.

3. Composition per one-gram sachet 15 component

Vitamin A	400 µg (as dry CWS vitamin A acetate or palmitate beadlets)
Vitamin C	30 mg (as sodium or calcium ascorbate)
Vitamin D	5 µg (200IU) (as dry CWS Cholecalciferol)
Vitamin E	5 mg TE (as CWS d or dl-alpha tocopheryl acetate)
Vitamin B1	0.5 mg (as Thiamine mononitrate)
Vitamin B2	0.5 mg (Riboflavin or riboflavin -5-phosphate)
Vitamin B3	6 mg (as Nicotinamide)
Vitamin B6	0.5 mg (as Pyridoxine hydrochloride)
Vitamin B12	0.9 µg (1% or 0.1% Cyanocobalamin on a carrier)
Folic acid	90 µg (anhydrous)
Iron	10 mg (as coated Ferrous fumerate, NaFe EDTA*or Ferrous bisglycinate)
Zinc	4.1 mg (as Zinc sulphate, or gluconate)
Copper	0.56 mg (as Copper gluconate or sulphate)
Selenium	17 µg (as Sodium selenate or selenite or selenomethionine)
Iodine	90 µg (as Potassium iodide, or potassium iodate)
Maltodextrin	q.s.

(See Appendix 1 for guidance on addition rates)

**Max 2.5mg of elemental iron from NaFeEDTA, the remaining 7.5mg of iron shall be added from another approved form*

4. Physical and organoleptic characteristics

Fine, granular, segregation free, off white, slightly yellow, odorless powder with tiny speckles; having a bland taste which has minimal impact on the taste, smell or color of the

food when mixed. The formulation shall be a stable, dry preparation that can be uniformly blended with the food the child is eating.

4.1 Formulation Notes

To minimize water content of the formulation anhydrous forms of vitamins and minerals are preferable. The product shall be manufactured in a humidity-controlled environment and the sachet filling shall be done under nitrogen or with limited exposure to air. Some nutrients may require microencapsulation to ensure shelf life, help to prevent oxidation through nutrient-nutrient or nutrient-food interactions and to minimize bitter and metallic tastes within the formulation. This may be particularly relevant for vitamin C, iron, and copper. However, the encapsulated ingredients should be a small particle size to minimize their visibility.

Applicable reference

1. The latest available USP Monograph for Minerals and Vitamins Oral Powder Monograph USP 42
2. Home Fortification Technical Advisory Group's manual on micronutrient powder composition, July 2013, available at:
<http://www.hftag.org/downloads.asp?s=hftag&search=composition%20manual>

4.2 Product Segregation

As the powder could be heterogeneous in its particle size, segregation of the powder needs to be carefully monitored. The beadlet (vitamin A, D, E) and encapsulated ingredients have a high propensity to segregate within the powder mixture.

5. Sachet and net weight

Sachets are 1g of micronutrient powder. The sachet and net weight should follow the international recommendation for quantity of product in pre-packages:

Applicable reference

1. OIML R 78 Quantity of commodity in pre-packages, latest edition.
https://www.oiml.org/en/files/pdf_r/r087-e04.pdf

6. Safety

MNPs shall be free from objectionable matter. It shall not contain any poisonous or deleterious substances, including microbial contaminants, anti-nutritional factors, heavy metals, or pesticides in amounts that may represent a hazard to health, and with microbiological limits as detailed below:

6.1 Microbiological criteria

Total CFU - max 10^3 /g.
Yeast/molds - max 10^2 /g.

Escherichia coli - negative in 10 g.
Salmonella sp - negative in 50 g.
Staphylococcus aureus - negative in 10 g.

6.2 Contaminants

Heavy metals, residual solvents and other contaminant levels need to meet the limits as set out by the current USP, BP Ph. Eu or Ph.Int. See example of limits below:

Elements	PDE* (µg/day)
Arsenic (inorganic)	15 µg/day = 0.015mg/day/1g sachet
Cadmium	5 µg/day = 0.005mg/day/1g sachet
Lead	10 µg/day = 0.01mg/day/1g sachet
Mercury (total)	15 µg/day = 0.015mg/day/1g sachet
Methylmercury (as Hg)	2 µg/day = 0.002mg/day/1g sachet

*Permitted daily exposure.

Applicable reference

1. USP 2021, Microbial Enumeration Tests - Nutritional and Dietary Supplements
2. USP 232 Elemental Impurities - Limits
3. USP, General Chapter <2232> Elemental Contaminants in Dietary Supplements
4. USP Residual solvents <467> in USP and NF Articles

7. Uniformity of Content and Mass

UNICEF requires suppliers to adhere to the standards for uniformity of content and mass for oral powders. Weight and quantity tolerance shall meet the International Organization of Legal Metrology International Recommendation OIML R 87.

Applicable reference

1. BP, Ph.Eur, Ph.Int, USP Pharmacopeial monographs for Oral powders
2. International Organization of Legal Metrology International Recommendation OIML R 87.
https://www.oiml.org/en/files/pdf_r/r087-e16.pdf

8. Analytical Requirements

Certificate of Analyse for each batch shall include tests of the following:

All the vitamins and minerals listed on the label
Microbiological criteria
Moisture (LOD) < 4.5%

9. Standard shelf life

Shelf-life studies shall demonstrate the product has levels of all nutrients within specification at 24 months, preferably 36 months, in Zone IV B climatic conditions (temperatures of 30 degrees Celsius and 75% RH) according to interagency requirements, as the product destinations will be delivered to countries with hot and humid climates.

Applicable reference

1. WHO guidelines for Stability testing: Stability testing of active pharmaceutical ingredients and finished pharmaceutical products. World Health Organization WHO Technical Report Series, No. 953, 2009
<https://www.who.int/publications/m/item/stability-testing-of-active-pharmaceutical-ingredients-and-finished-pharmaceutical-products-stability-conditions-for-who-member-states-by-region-%28update-march-2021%29>

10. Manufacturing Standard

Overall food safety management environment. The product shall be manufactured within a quality and food safety management environment in accordance with recognized international standards and best practices and/or guidelines, such as

Applicable reference

1. Pharmaceutical companies manufacturing this product must comply with a Quality Management System commensurate with Good Manufacturing Practice (GMP) according to WHO (Technical Report Series 961).
2. Codex Alimentarius and the 'Code of Practice for Food Premix Operations'.
3. PanAmerican health Organization (FCH/NU/66).

Other standards for food safety such as ISO, GMP and HACCP (Annex 5 of the U.S. Department of Health and Human Services, and FDA 199 Food Code).

11. Packaging

11.1 Primary packaging

Packaging material shall guarantee proper hygiene and stability of the vitamin and mineral powder, following Codex Alimentarius Standards when applicable, and be made of material that is safe (at

least food grade, e.g., complying with FDA/CFSSAN, white list or with regulations from national health authorities).

Packaging material shall provide a barrier to light, air (oxygen) and moisture to ensure the product is stable for 24 months. Packaging to be made of PET or aluminum-laminate: polyethylene-aluminum – printed polyethylene E.g., PET/Al 8/PE thickness of 65 µm or another suitable material that maintains 24 months shelf life.

11.2 Secondary packaging

Sachets shall be packed inside a cardboard box, or a sealed bag made of aluminum laminate, polyethylene or a film coated bag. The secondary packaging material shall be suitable to be fitted in a cardboard box for storage and bulk shipment.

12. Labelling

UNICEF shall provide layouts for secondary packaging of standard MNPs. For custom layouts, the supplier shall develop the packaging artwork as per the customer's request. The cardboard box shall use Pantone 361C for the dark green and Pantone 358C for the light green. Sachets shall use Pantone 361C or retain the silver colour associated with the foil.

Labelling shall be appropriate for the consumer, taking into consideration nutritional habits, type of food consumed, as well as other culturally sensitive aspects, e.g., images of children or food appearing on the label. MNPs shall be labelled according to the latest version of recognized international standards.

12.1 Primary Labelling

Sachet label shall contain

- i. Name of the product: Vitamin and Mineral Powder
- ii. Net weight
- iii. Pictogram with written instructions for preparation
- iv. Name and address of the manufacturer
- v. Target group
- vi. Expiry date
- vii. Batch number

12.2 Secondary labelling

Cardboard box or package label shall include

- i. Product name (as above)
- ii. Number of sachets and net weight: e.g.: *Contents: 30 sachets of 1g.*
- iii. Full composition: list of 15 vitamins and minerals and excipients
- iv. Percent of dietary intake as per CAC/GL 8-1991 updated 2013
- v. Batch number assigned by the manufacturer
- vi. Manufacturing date
- vii. Expiry date
- viii. Storage conditions
- ix. Name and address of the manufacturer, co-packet, distributor
- x. Written and pictogram instructions for preparation and use, specifying that the product shall be added to the child's usual meal and that the entire sachet is to be added to the child's serving prior to eating
- xi. Age of children: 6-59 months
- xii. Serving: 1 sachet per child per day

xiii. Consumer Guidance Messages: *Breastfeeding is recommended for 24 months and exclusively for 6 months.*

Applicable reference

1. Codex Stan 146-1985 General standard for the Labelling of claims for pre-packaged foods for special dietary purposes
2. Codex Stan 1-1985 general standard for the labelling of pre-packaged foods
3. Guidelines for vitamin and mineral food supplements. CAC/GL 55 - 2005.
4. Guidelines on Formulated Complementary Foods for Older Infants and Young Children CAC/GL 8-1991 (revised 2013)

12.3 Packaging layout

Languages – English, French, Arabic and Spanish. (See appendix 2)

Translation file: see appendix 3 (for supplier to use in developing packaging artwork)

13. Storage conditions

Do not store above 30 °C

Store in tightly closed original packaging, protect from moisture.

Keep out of reach and sight of children.

14. Instruction for use

Mix the sachet contents with a small portion of solid or semi-solid food just before serving.

15. Pictogram Guide

Show a small spoon in the pictorial description demonstrating the powder should be mixed with food. Do not use images that could be interpreted unfavorably; include a picture of an infant older than 6 months that is ethnically specific for the region.

16. Cautionary Programme Note

This is not a replacement for any additional nutritional interventions, which shall continue alongside use of this product. Breastfeeding should be encouraged to be continued if MNPs are part of a complimentary diet for the infant (see label requirements for mandatory message).

17. Dosage

Children aged 6 - 59 months shall be given one dose (i.e., one sachet) a day for a period of 30 days, or as prescribed by the health professional.

18. Adverse Effects

No adverse events have been reported during the use of MNPs. However, supplemental iron and zinc have been reported to cause mild gastrointestinal upset in sensitive individuals, particularly if consumed on an empty stomach.

19. Addition requirements that may be requested

20.1 Halal, Kosher and Vegetarian / Vegan Vitamins

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

20.2 GMO free requirements

Many countries request that imported products are GMO free. Naturally derived vitamin E and corn derived maltodextrin can often be manufactured from GMO soy or corn and thus could lead to customs delays without adequate certification. UNICEF may request GMO free certification if required by the importing country office.

Appendix 1

Suggested addition rates to account for shelf-life degradation.

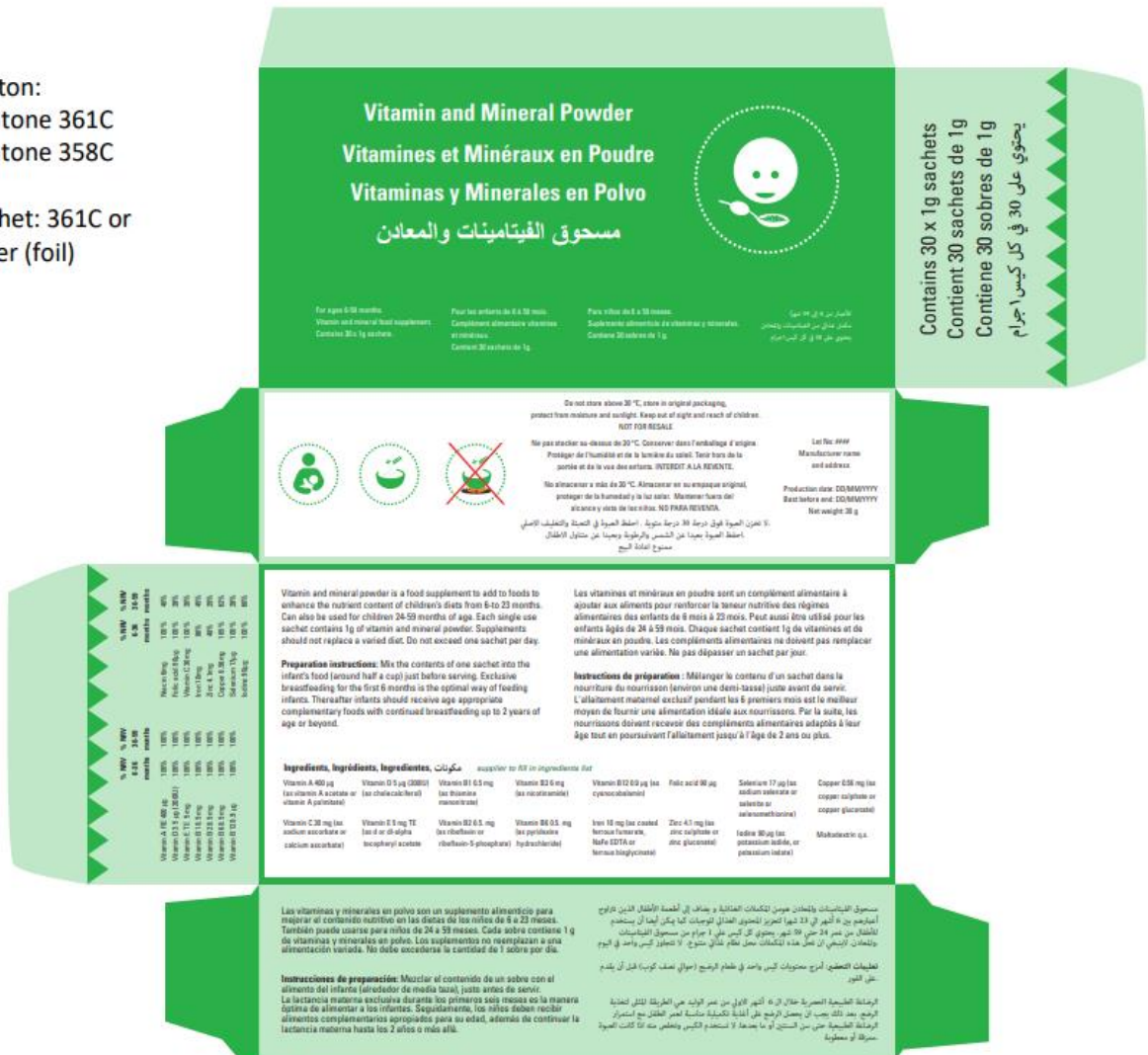
1. Vitamin A	400 µg RE	(130-150%)
2. Vitamin C	30 mg	(120-150%)
3. Vitamin D3	5 µg	(130-165%)
4. Vitamin E	5 mg TE	(110-165%)
5. Vitamin B1	0.5 mg	(125-150%)
6. Vitamin B2	0.5 mg	(125-150%)
7. Vitamin B3	6 mg	(110-150%)
8. Vitamin B6	0.5. mg	(125-150%)
9. Vitamin B12	0.9 µg	(125-150%)
10.Folic Acid	90 µg	(125-150%)
11. Iodine	90 µg	(120%)

Appendix 2

Artwork will be shared as a separate document.

Carton:
Pantone 361C
Pantone 358C

Sachet: 361C or
silver (foil)



Appendix 3

4 language translations

English Text	Arabic Text
Vitamin and Mineral Powder for ages 6-59 months Vitamin and mineral food supplement. contains 30 x 1g sachets	مسحوق الفيتامينات والمعادن للأعمار 6-59 شهرا مكملات غذائية من الفيتامين والمعادن يحتوي على 30 كيس × 1 جرام.

<p>Vitamin and mineral powder is a food supplement to add to foods to enhance the nutrient content of children's diets from 6-to 23 months. Can also be used for children 24-59 months of age. Each single use sachet contains 1g of vitamin and mineral powder. Supplements should not replace a varied diet. Do not exceed one sachet per day. Ingredients: (supplier to provide exact text)</p>	<p>مسحوق الفيتامينات والمعادن هومن المكملات الغذائية و يضاف إلى أطعمة الأطفال الذين تتراوح أعمارهم بين 6 أشهر الي 23 شهرا لتعزيز المحتوى الغذائي للوجبات كما يمكن أيضا أن يستخدم للأطفال من عمر 24 حتي 59 شهر. يحتوي كل كيس علي 1 جرام من مسحوق الفيتامينات والمعادن. لا ينبغي ان تحل هذه المكملات محل نظام غذائي متنوع. لا تتجاوز كيس واحد في اليوم.</p> <p>المكونات: (المورد لتوفير النص الدقيق)</p>
<p>Preparation instructions: Mix the contents of one sachet into the infant's food (around half a cup) just before serving</p> <p>Exclusive breastfeeding for the first 6 months is the optimal way of feeding infants. Thereafter infants should receive age appropriate complementary foods with continued breastfeeding up to 2 years of age or beyond.</p> <p>Do not store above 30 °C, store in original packaging, protect from moisture and sunlight. Keep out of reach and sight of children NOT FOR RESALE</p>	<p>تعليمات التحضير: أمزج محتويات كيس واحد في طعام الرضيع (حوالي نصف كوب) قبل أن يقدم على الفور.</p> <p>الرضاعة الطبيعية الحصرية خلال ال 6 أشهر الاولي من عمر الوليد هي الطريقة المثلى لتغذية الرضع. بعد ذلك يجب ان يحصل الرضع على أغذية تكميلية مناسبة لعمر الطفل مع استمرار الرضاعة الطبيعية حتى سن السنتين أو ما بعدها. لا تستخدم الكيس وتخلص منه اذا كانت العبوة ممزقة أو معطوبة.</p> <p>لا تخزن العبوة في درجة حرارة فوق 30 مئوية، احفظ العبوة اثناء التخزين في التعبئة والتغليف الأصلي، احفظ العبوة من الرطوبة و بعيداً عن أشعة الشمس. ابق العبوة بعيدا عن متناول الأطفال . ليست لإعادة البيع</p>

English Text	French Text
<p>Vitamin and Mineral Powder for ages 6-59 months Vitamin and mineral food supplement. contains 30 x 1g sachets</p>	<p>Vitamines et Minéraux en Poudre Pour les enfants de 6 à 59 mois Complément alimentaire vitamines et minéraux. Contient 30 sachets de 1g.</p>
<p>Vitamin and mineral powder is a food supplement to add to foods to enhance the nutrient content of children's diets from 6-to 23 months. Can also be used for children 24-59 months of age. Each single use sachet contains 1g of vitamin and mineral powder. Supplements should not replace a varied diet. Do not exceed one sachet per day. Ingredients: (supplier to provide exact text)</p>	<p>Les vitamines et minéraux en poudre sont un complément alimentaire à ajouter aux aliments pour renforcer la teneur nutritive des régimes alimentaires des enfants de 6 mois à 23 mois. Peut aussi être utilisé pour les enfants âgés de 24 à 59 mois. Chaque sachet contient 1g de vitamines et de minéraux en poudre. Les compléments alimentaires ne doivent pas remplacer une alimentation variée. Ne pas dépasser un sachet par jour. Ingrédients : (supplier to provide exact text)</p>

<p>Preparation instructions: Mix the contents of one sachet into the infant's food (around half a cup) just before serving</p> <p>Exclusive breastfeeding for the first 6 months is the optimal way of feeding infants. Thereafter infants should receive age appropriate complementary foods with continued breastfeeding up to 2 years of age or beyond.</p> <p>Do not store above 30 °C, store in original packaging, protect from moisture and sunlight. Keep out of reach and sight of children NOT FOR RESALE</p>	<p>Instructions de préparation : Mélanger le contenu d'un sachet dans la nourriture du nourrisson (environ une demi-tasse) juste avant de servir.</p> <p>L'allaitement maternel exclusif pendant les 6 premiers mois est le meilleur moyen de fournir une alimentation idéale aux nourrissons. Par la suite, les nourrissons doivent recevoir des compléments alimentaires adaptés à leur âge tout en poursuivant l'allaitement jusqu'à l'âge de 2 ans ou plus.</p> <p>Ne pas stocker au-dessus de 30 °C. Conserver dans l'emballage d'origine. Protéger de l'humidité et de la lumière du soleil. Tenir hors de la portée et de la vue des enfants. INTERDIT A LA REVENTE.</p>
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English Text	Spanish Text
<p>Vitamin and Mineral Powder for ages 6-59 months Vitamin and mineral food supplement. contains 30 x 1g sachets</p>	<p>Vitaminas y Minerales en Polvo Para niños de 6 a 59 meses Suplemento alimenticio de vitaminas y minerales. Contiene 30 sobres de 1g.</p>
<p>Vitamin and mineral powder is a food supplement to add to foods to enhance the nutrient content of children's diets from 6-to 23 months. Can also be used for children 24-59 months of age. Each single use sachet contains 1g of vitamin and mineral powder. Supplements should not replace a varied diet. Do not exceed one sachet per day.</p> <p>Ingredients: (supplier to provide exact text)</p>	<p>Las vitaminas y minerales en polvo son un suplemento alimenticio para mejorar el contenido nutritivo en las dietas de los niños de 6 a 23 meses. También puede usarse para niños de 24 a 59 meses. Cada sobre contiene 1 g de vitaminas y minerales en polvo. Los suplementos no reemplazan a una alimentación variada. No debe excederse la cantidad de 1 sobre por día. Ingredientes : (supplier to provide exact text)</p>
<p>Preparation instructions: Mix the contents of one sachet into the infant's food (around half a cup) just before serving</p> <p>Exclusive breastfeeding for the first 6 months is the optimal way of feeding infants. Thereafter infants should receive age appropriate complementary foods with</p>	<p>Instrucciones de preparación : Mezclar el contenido de un sobre con el alimento del infante (alrededor de media taza), justo antes de servir.</p> <p>La lactancia materna exclusiva durante los primeros seis meses es la manera óptima de alimentar a los infantes. Seguidamente, los niños deben recibir alimentos complementarios apropiados para su edad,</p>

continued breastfeeding up to 2 years of age or beyond. Do not store above 30 °C, store in original packaging, protect from moisture and sunlight. Keep out of reach and sight of children NOT FOR RESALE	además de continuar la lactancia materna hasta los 2 años o más allá. No almacenar a más de 30 °C. Almacenar en su empaque original, proteger de la humedad y la luz solar. Mantener fuera del alcance y vista de los niños. NO PARA REVENTA.
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Ingredients, Ingrédients, Ingredientes, مكونات

(please select ingredients from the vitamin and mineral forms below and then include these in your cartón artwork in paragraph format in the área provided)

English	French	Spanish	Arabic
Vitamin A 400 µg (vitamin A acetate or vitamin A palmitate)	Vitamine A 400 µg (sous forme de perles d'acétate ou de palmitate de Vitamine A CWS sèche)	Vitamina A 400 µg (como microesferas secas de acetato o palmitato de vitamina A soluble en agua fría)	فيتامين أ 400 وحدة دولية (اسيتات فيتامين أ)
Vitamin C 30 mg (as sodium ascorbate or calcium ascorbate)	Vitamin C 30 mg (sous forme d'ascorbate de sodium ou de calcium)	Vitamina C 30 mg (como ascorbato de calcio o de sodio)	فيتامين ج 30 مغ (حمض الاسقربوط)
Vitamin D 5 µg (200IU) (as Cholecalciferol)	Vitamin D 5 µg (200IU) (sous forme de cholécalciférol CWS sec)	Vitamina D 5 µg (200IU) (como colecalciferol seco soluble en agua fría)	فيتامين د 5 ميكروغرام أو 200 وحدة دولية كوليالكالسيفيرول أو فيتامين د3
Vitamin E 5 mg TE (dl-alpha tocopheryl acetate or d alpha tocopheryl)	Vitamine E 5 mg TE (sous forme d'acétate de CWS d ou dl-alpha tocophéryle)	Vitamina E 5 mg TE (como acetato de D o DL- alfa tocoferilo)	فيتامين هـ 5 مغ د-الفا توكوفيريل أو د-الفا توكوفيريل اسيتات
Vitamin B1 0.5 mg (as Thiamine mononitrate)	Vitamine B1 0,5 mg (sous forme de mononitrate de Thiamine)	Vitamina B1 0.5 mg (como mononitrato de tiamina)	فيتامين ب1 0.5 مغ ثيامين احادي النترات
Vitamin B2 0.5. mg (Riboflavin or Riboflavin -5-phosphate)	Vitamine B2 0,5 mg (Riboflavine ou Riboflavine -5-phosphate)	Vitamina B2 0.5 mg (como fosfato de riboflavina o riboflavina-5)	فيتامين ب2 0.5 مغ ريبوفلافين

Vitamin B3 6 mg (as Nicotinamide)	Vitamin B3 6 mg (sous forme de Nicotinamide)	Vitamina B3 6 mg (como nicotinamida)	فيتامين ب3 6 مغ نياتين
Vitamin B6 0.5. mg (as Pyridoxine hydrochloride)	Vitamine B6 0,5. mg (sous forme de chlorhydrate de pyridoxine)	Vitamina B6 0.5 mg (como hidrocloreuro de piridoxina)	فيتامين ب6 0.5 مغ بيريدوكسين هيدروكلورايد
Vitamin B12 0.9 µg (as Cyanocobalamin)	Vitamine B12 0,9 µg (1 % ou 0,1 % de Cyanocobalamin sur un porteur)	Vitamina B12 0.9 µg (1% o 0.1% de Cianocobalamina en un agente de transporte)	فيتامين ب12 0.9 ميكروغرام كوبالامين
Folic acid 90 µg	Acide folique 90 µg (anhydre)	Ácido Fólico 90 µg (anhidro)	حمض الفوليك 90 ميكروغرام
Iron 10 mg (as coated Ferrous fumerate, NaFe EDTA* or Ferrous bisglycinate)	Fer 10 mg (sous forme de fumerate ferreux enrobé, NaFe EDTA* ou bisglycinate ferreux)	Hierro 10 mg (como fumarato ferroso, EDTA de hierro y sodio, o bisglicinato de hierro, recubierto)	حديد 10 مغ فومارات الحديد المغلفة أو صوديوم الحديد ايتيلين- ديامين-ايتير-اسيتات أو غلايسين الحديد
Zinc 4.1 mg (as Zinc sulphate , or Zinc gluconate)	Zinc 4,1 mg (sous forme de sulfate de zinc ou de gluconate)	Cinc 4.1 mg (como sulfato o gluconato de cinc)	زنك 4.1 مغ سلفات الزنك أو غلوكونات الزنك
Copper 0.56 mg (as Copper gluconate or Copper sulphate)	Cuivre 0,56 mg (sous forme de gluconate ou de sulfate de cuivre)	Cobre 0.56 mg (como gluconato o sulfato de cobre)	نحاس 0.56 مغ غلوكونات النحاس أو سلفات النحاس
Selenium 17 µg (as Sodium selenate or selenite or selenomethionine)	Sélénium 17 µg (sous forme de sélérate de sodium ou de sélénite ou de sélénométhionine)	Selenio 17 µg (como selenato, selenito o selenometionina de sodio)	سيلينيوم 17 ميكروغرام سيلينات الصوديوم أو سيلينات أو سيلين-ميتيونين
Iodine 90 µg (as Potassium iodide , or potassium iodate)	Iode 90 µg (sous forme d'iodure de potassium ou d'iodate de potassium)	Yodo 90 µg (como ioduro o iodato de potasio)	يود 90 ميكروغرام يوديد البوتاسيوم أو يودات البوتاسيوم
Maltodextrin q.s.	Maltodextrine q.s.	Maltodextrina q.s.	مالتوديسترين

Useful Resources

1. Contaminants Reference Table
2. Stability study template for nutritional products
3. Interagency Requirements for stability study
4. Interagency Specialised Food Manufacturer Quality Questionnaire.
5. Interagency Specialised food Product Questionnaire
6. Technical Requirements for Nutritional Products

FOR MORE INFORMATION

CPHHQ-SD- Nutrition Supplies sd.nutritionsupplies@unicef.org

[Technical resources for nutrition products | UNICEF Supply Division](#)