



NEW

MixMe™

Vitamin & Mineral Powder

**For children from
6-59 months of age**



What is MixMe™ Vitamin and Mineral Powder?

- Vitamin and Mineral Powder is also often referred to as multiple **Micronutrient Powder** (MNP).
- MixMe™ Vitamin and Mineral Powder sachets each contain 1g of dry powder mixture containing 15 essential micronutrients (vitamins and minerals) that research shows are often missing in the diets of children from 6 months to 59 months (5 years) of age and so can improve their vitamin and mineral intake and nutritional status (1).
- MixMe™ Vitamin and Mineral Powder is added to any solid or semi-solid home-prepared food after cooking, just before eating.
- MixMe™ Vitamin and Mineral Powder is available as a soft foil pouch bag that contains 30 individual foil sachets. Each individual sachet contains 1g of MNP which is a single serving for children from 6 months to 59 months of age.
- MixMe™ Vitamin and Mineral Powder is not intended to replace exclusive and continued breast feeding. It is used to supplement the vitamin and mineral intake of children once complementary feeding begins at 6 months of age.

IMPORTANT TO NOTE:

- All children should be exclusively breastfed (breast milk only without any other fluids, not even water) from birth to 6 months of age.
- (Semi-)solid complimentary foods are added at 6 months of age together with continued breastfeeding for up to 2 years and beyond.

What does MixMe™ Vitamin and Mineral Powder contain?

Composition per 1g sachet: 1 serving:		
Nutrient	Per 1g Serving	%RNI's*
Vitamin A	1332 IU / 400 mcg	100
Vitamin D	200 IU / 5 mcg	100
Vitamin E	5 mg TE	100
Vitamin B1	0.5 mg	100
Vitamin B2	0.5 mg	100
Vitamin B6	0.5 mg	100
Vitamin B12	0.9 mcg	100
Niacinamide	6 mg	100
Folate	150 mcg	100
Vitamin C	30 mg	100
Iron	10 mg	100
Zinc	4.1 mg	100
Copper	0.56 mg	100
Selenium	17 mcg	100
Iodine	90 mcg	100



*Reference Nutrient Intake based on WHO/ UNICEF/WFP Joint Statement Document 6-59 months (2)

Inactive ingredients included in MixMe™ Vitamin and Mineral Powder are: maltodextrin, silicon dioxide, tricalcium phosphate and are used to act as carriers for the vitamins and minerals.

- The composition is based on the **Recommended Nutrient Intake (RNI)** of each micronutrient per dose for children 6 – 59 months of age as per the WHO/UNICEF/WFP Joint Statement Document 6-59 months (2).
- **Recommended Nutrient Intake (RNI)** is defined by the World Health Organisation (WHO) and Food and Agriculture Organisation (FAO) as the daily dietary intake of a nutrient sufficient to meet the requirements of nearly all apparently healthy individuals in a specific population group (3).

Why use MixMe™ Vitamin and Mineral Powder?

- Research shows that many complementary foods and foods fed to children 6 months – 59 months of age, do not provide sufficient micronutrients to meet their nutrient needs. This commonly occurs where one or more of the following apply:
 1. Dietary diversity is low (due to limited availability or affordability);
 2. Foods commonly fed to children between 6 months - 59 months of age have insufficient nutrient content and density (e.g. watery porridges);
 3. The bioavailability of micronutrients in food commonly eaten by children between 6 months and 59 months of age is poor due to absorption inhibitors in the diet (e.g. fibre, phytate, tannins). This is of particular relevance in diets where plant-based foods are the staple food, few animal-source and fortified foods are included and where tea consumption is common (4).
- MixMe™ Vitamin and Mineral Powder added to foods prepared at home (home fortification) is one of the strategies used to improve the nutrient intake of children between 6 months and 59 months. Supplementation, increased dietary diversification and other public health measures (e.g. improved sanitation) are also important.
- Home-fortification with the addition of MixMe™ Vitamin and Mineral Powder aims to ensure that the diet of children between 6 months and 59 months of age meets their vitamin and mineral needs.
- Home-fortification, if used correctly, does not conflict with exclusive and continued breastfeeding or with the timely transition from exclusive breastfeeding to the introduction of complementary foods at 6 months of age and then to family foods as the child grows older. MixMe™ Vitamin and Mineral Powder is added to the foods already fed to children 6 months to 59 months of age.
- Home fortification can potentially be used to reinforce messages on the appropriate feeding of children 6 months to 59 months of age.

What are the benefits of using MixMe™ Vitamin and Mineral Powder?

- Home fortification increases micronutrient intake, which leads to an improvement of micronutrient status and can therefore improve child health, including:
 - morbidity and mortality
 - improved growth
 - improved cognition
 - improved appetite and other functional outcomes (4)

Who should use MixMe™ Vitamin and Mineral Powder?

Target group:

- MixMe™ Vitamin and Mineral Powder is recommended for infants and children **6 – 59 months (6 months to 5 years)** of age. Home fortification should start when complimentary foods are introduced to the diet together with continued breastfeeding to 2 years of age and beyond. Home fortification may be continued when family foods are introduced to older children.
- The period of highest vulnerability for micronutrient deficiencies in young children is from 6 – 23 months of age, when food quantity and variety may be limited (4).
- Children from 24 – 59 months of age may however also be at high risk of inadequate dietary intake of some vitamins and minerals (4).

Target Health Conditions:

- The health issues most commonly targeted for the use of MNP's are:
 1. Anaemia (According to WHO 2011 guideline, products aimed at reducing anaemia should contain at least 3 micronutrients, including iron, vitamin A and zinc) (5).
 2. General dietary micronutrient inadequacies in addition to anaemia (According to WHO/FAO guidelines 2007 products aimed at reducing micronutrient deficiencies - should contain at least 15 micronutrients) (3).
- MixMe™ Vitamin and Mineral Powder contains 15 micronutrients including iron (10mg per sachet), vitamin A (1332 IU/ 400 mcg per sachet) and zinc (4.1 mg per sachet).

Have any side effects been reported from using MixMe™ Vitamin and Mineral Powder?

- Although occurring in less than 1% of those using MNP's, mild diarrhoea may occur when children start using a vitamin and mineral powder. This usually stops within 2 days. Where diarrhoea does occur, it should be treated following the standard protocol and with increased liquids. MixMe™ Vitamin and Mineral Powder consumption does not need to be interrupted (4).
- If the diarrhoea continues for longer than 2 days, is severe, or is bloody or contains mucous, the child should see a Healthcare Professional (4).
- MixMe™ Vitamin and Mineral Powder contains iron, thus children using a Micronutrient Powder may have a darker or even black stool. This is not cause for concern as darker stools are due to the fact that the iron is being absorbed into the child's body. Caregivers may need to be informed of this possibility.

How should MixMe™ Vitamin and Mineral Powder be used?

Directions for using MixMe™:

1 For one child, a single sachet of MixMe™ Vitamin and Mineral Powder should be used each day and mixed into the food that the child normally consumes.

- MixMe™ Vitamin and Mineral Powder **SHOULD NOT** be shared with other children to ensure that the child receives the appropriate amount of vitamins and minerals.
- The child's food should be served on their own **separate plate / bowl**.

2 The caregiver should set aside a small portion of cooked warm, solid or semi-solid food that the child will be able to finish in a single sitting.

3 The MixMe™ Vitamin and Mineral Powder should be poured onto the small portion of the warm, cooked meal just before feeding the child aged between 6 months and 5 years of age.

- MixMe™ Vitamin and Mineral Powder **SHOULD NOT** be added **before cooking** as this will destroy the vitamins and minerals as many of them are heat sensitive.
- MixMe™ Vitamin and Mineral Powder **SHOULD NOT** be added to **hot foods** as this can lead to colour and taste changes in the food (Refer to FAQ).
- MixMe™ Vitamin and Mineral Powder **SHOULD NOT** be added to **cold foods** as the powder may not mix well and result in lumps.
- MixMe™ Vitamin and Mineral Powder **SHOULD NOT** be added to **liquid foods** as this can lead to colour and taste changes in the liquid (Refer to FAQ).
- MixMe™ Vitamin and Mineral Powder is used added to cooked warm, solid or semi-solid foods. MixMe™ Vitamin and Mineral Powder is used **TOGETHER WITH** continued breastfeeding for children 6 months up to at least 2 years and **DOES NOT** replace breast milk. Children from birth to 6 months should be exclusively breastfed.

4 The MixMe™ Vitamin and Mineral Powder should be added to an amount of food which the child will eat at one time. The meal where the child eats the most is the best meal to add the powder to.

- The contents of the MixMe™ Vitamin and Mineral Powder sachet should be used all at once at one meal and **SHOULD NOT** be divided between meals, as the vitamins and minerals in the open powder might become inactive.
- Mix the small portion of food well after the MixMe Vitamin and Mineral Powder has been added.

5 The small portion of food mixed with MixMe Vitamin and Mineral Powder should be fed to the child within **half an hour (30 minutes)** of mixing.

- MixMe™ Vitamin and Mineral Powder does not generally change the taste or consistency of the food when mixed correctly. The colour of white / beige foods such as maize porridge could change to a slightly yellow colour when MixMe™ Vitamin and Mineral Powder is added. No colour changes should however be seen in darker coloured foods such as stews and gravy.
- Ensure that the child finishes the small portion of food that contains the MixMe Vitamin and Mineral Powder before feeding the child the rest of the meal. Left over food containing MixMe Vitamin and Mineral Powder should not be kept for another meal as the vitamins and minerals will become inactive.

Recommended frequency for use of MixMe™ Vitamin and Mineral Powder:

- In order to meet the child's daily recommended vitamin and mineral intake 1 sachet of MixMe™ Vitamin and Mineral Powder should be used each day (4).
- The recommended dosage should not be exceeded to avoid possibly reaching the upper tolerable limit for vitamins and minerals.

*The Tolerable Upper Limit (UL) is the highest level of daily nutrient intake that is likely to pose no risk of adverse health effects to almost all individuals (97.5%) in the general population and applies to daily use for a prolonged period of time.

Use only **1 sachet per child per day**. Do not exceed the recommended dosage.



Directions to use MixMe™ Vitamin and Mineral Powder



STEP 1

Tear sachet open.



STEP 2

Set aside a small portion of food that the child will be able to finish in a single sitting.



STEP 3

Pour the vitamin and mineral powder onto the small portion of the cooked meal, just before feeding the child.



STEP 4

Mix the small portion well after you have added the vitamin and mineral powder.



STEP 5

Feed the food that has the added vitamin and mineral powder to the child within half an hour (30 minutes) of adding the powder

How should MixMe™ Vitamin and Mineral Powder be stored?

- Store below 25°C, in a cool, dry place.
- Protect from sunlight. Store the large foil pouch with the sachets in a cool place like a cupboard or shelf away from the sun and heat. Some vitamins and minerals will lose activity if it is exposed to heat or sunlight.
- Shelf life: Recent research shows that the 1g sachets can be stored for at least 24 months at 30°C. Look at the expiry date indicated on the back of the pack and sachets.
- **KEEP OUT OF REACH OF CHILDREN.**
- Packaging can be recycled or should be buried – do not burn packaging.

Behaviour Change Communication when using MixMe™ Vitamin and Mineral Powder

- The use of MixMe™ Vitamin and Mineral Powder does not require the child's caregiver to prepare special foods, as it is added to food normally fed to the child between 6 months and 59 months of age. However the **child's caregiver must be educated** on the use and storage of the product for the successful use of MixMe™ Vitamin and Mineral Powder.
- MixMe™ Vitamin and Mineral Powder alone will not improve the child's nutritional status and so the caregiver also needs to be educated on the general principles of optimal infant, young child and child feeding.

Frequently Asked Questions:

Can MixMe™ Vitamin and Mineral Powder be provided in combination with other fortified products and supplements, such as:

- a. High-dose vitamin A capsules (VAC)
 - b. Iodised salt
 - c. General food fortification of flour, oil, salt, etc.
 - d. Specially formulated products (LNS, RUTF, CSB+/++, WSB+/++, RUSF, etc.)?
- MixMe™ Vitamin and Mineral Powder can be **safely used** in addition to twice-yearly high-dose VAC, iodised salt and general food fortification.
 - Combining MixMe™ Vitamin and Mineral Powder with other specially formulated products, such as RUTF (ready-to-use therapeutic foods) for the treatment of severe acute malnutrition, RUSF (Ready-to-use supplementary foods) or fortified blended foods such as WSB++ (wheat-soy blend) or CSB++ (corn-soy blend) for the treatment of moderate acute malnutrition, or small quantity LNS (lipid-based nutrient supplement, $\leq 20\text{g/d}$, providing $\leq 120\text{ kcal/d}$) is **not appropriate** as these products already contain a similar or higher amount of the vitamins and minerals contained in MixMe™ Vitamin and Mineral Powder. The MixMe™ Vitamin and Mineral Powder can be started, when these other products are no longer required (4).

Can MixMe™ Vitamin and Mineral Powder be used in malaria areas?

- In malaria-endemic areas, the provision of iron-containing vitamin and mineral powder should be implemented in conjunction with measures to prevent, diagnose and treat malaria (4).

Why is MixMe™ Vitamin and Mineral Powder not encouraged to be mixed with liquid or hot food?

- In order to mask the strong metallic taste of the iron, the iron in MixMe™ Vitamin and Mineral Powder is coated or encapsulated with a thin coat of soy lipid (to mask the metallic taste). When it is mixed with liquid foods, it will float to the top of liquids and tend to stick to the side of the cup or glass, so some of the powder will be lost.
- The melting temperature for the lipid is around 60°C. If MixMe™ Vitamin and Mineral Powder is added to food that is hotter than 60°C, the lipid coating around the iron will melt and the iron will be exposed to the food. The result will be that the iron can change the colour of the food and certainly will cause a stronger taste.
- To prevent changes in the taste and the colour of food to which MixMe™ Vitamin and Mineral Powder is added, it is recommended that MixMe™ Vitamin and Mineral Powder be added to cooked food after it is cooled to a temperature below 60°C or once it is ready to be eaten by a child (warm foods) (4).

Can MixMe™ Vitamin and Mineral Powder be used for infants younger than 6 months of age?

- Infants from birth to 6 months should be exclusively breastfed (breast milk only without any other fluids, not even water). Breast milk fully meets the nutrient needs for infants less than 6 months and therefore it is not recommended to use MixMe™ Vitamin and Mineral Powder before 6 months of age and the introduction of complementary feeding (4).

FOR MORE INFORMATION, PLEASE VISIT:

- <http://hftag.gainhealth.org/products/micronutrient-powders-mnp>
- <http://hftag.gainhealth.org/>

References

1. Home Fortification Technical Advisory Group. Manual on Micronutrient Powder (MNPs) Composition. Geneva: Home Fortification Technical Advisory Group, 2013.
2. WHO, WFP, UNICEF: Joint statement. Preventing and controlling micronutrient deficiencies in populations affected by an emergency. 2007. http://www.who.int/nutrition/publications/micronutrients/WHO_WFP_UNICEFstatement.pdf
3. WHO/FAO/IAEA: Joint WHO/FAO/IAEA Expert Consultation: Vitamin and mineral requirements in human nutrition, 2nd ed. Geneva, Switzerland: World Health Organisation, 2004.
4. Home Fortification Technical Advisory Group. Programmatic Guidance Brief on use of Micronutrient Powders (MNP) for Home Fortification. Geneva: Home Fortification Technical Advisory Group, 2013.
5. WHO: Use of multiple micronutrient powders for home fortification of foods consumed by infants and children 6-23 months of age. Geneva, Switzerland: World Health Organisation, 2011.



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