THE BAMISA FLOUR QUALITY OBJECTIVES

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The BAMiSA flour characteristics were defined by the APPB according to the scientific data concerning child nutrition, respecting standards, and more specifically those of FAO/OMS. The quality objectives of the flour were determined according to these data. They concern conditioning/labelling, the bacteriological quality, the chemical composition of the flour and the amylasic activity of the malt.

The BAMiSA flour is defined as a diet flour and is classified according to the CODEX ALIMENTARIUS in the category called ‘’Formulated Supplementary Foods for Older Infants and Young Children’’ (1).

The BAMiSA flour can be considered to be a ‘’**pre-cooked fatty composite flour**”, adapted to the digestive fragility of young children, as well as that of sick adults. (Cf. Document 03b « BAMiSA flour. Product ID »)

The **quality objectives** act as a guide for the producers of BAMiSA flour in the 'Unités de Production Artisanale' (UPA) which are small-scale artisan production units and also the 'Groupes de fabrication Communautaire' (GFC) which are community manufacturing groups, in order to enable the optimization of the manufacturing and conditioning of the flour. In a way, the producers have an obligation of result: the quality goals must be attained. But they have no obligation concerning the means to reach their aims, which is proportional to the volume of production and to the context of each UPA or GFC.

The quality objectives of the BAMiSA flour are specified by **expertise criteria**. The BAMiSA® flour characteristics are given in document 03b - Farine BAMiSA - Product ID

The expertise of the flour samples are established according to quality criteria (Cf. Document 03f « BAMiSA flour. Bag expertise »). The bacteriological and chemical expertise is achieved by a chartered laboratory(2). The expertise of the conditioning and of the amylasic quality of the malt is achieved by the APPB. Samples also undergo expertise by the laboratories of the producing country as much as possible.

To evaluate the quality of the flour, the APPB demands of the BAMiSA charter signatories to regularly hand in samples of the BAMiSA flour and also of the malt in order to undergo expertise ». (Article 5 of the BAMiSA Charter). Respecting the corpus of the quality criteria binds the producers' responsibility and enables them to guarantee the quality of the flour to the consumers.

Respecting the qualitative goals of both flour and malt enables users to prepare the porridge in the conditions advocated by Document 05e: « La bouillie BAMiSA. Objectifs de qualité».

In this document, the **packaging and labelling**, the **bacteriological quality**, the **chemical composition** and the **amylasic activity of the malt** are analysed around three issues

- Qualitative aims,
- Expertise criteria,
- Caution-requiring points.

Other elements which were not taken into account during former expertise will also be analysed.

A note on the salmonella exceptionally found in some of the samples will complete this document.

1. Packaging and labelling.

1.1 Quality objectives of conditioning and labelling meet the requirements of packaging resistance and consumer information.

The material used for the bags, (HDPE, High Density Poly-Ethylene) enables good conservation at low cost.

The labelling meets the requirements of the Codex Alimentarius, (STAN 146-1985) [(3)]. It mentions all of the information which enable the adequate preparation of the 'Bouillie Concentrée Liquéfiée', i.e. 'Liquified Concentrated Porridge'. The "1+2+3" recipe, as is explained at the back of the box, has a nutritional role.

The hermetic weld prevents the flour to be contaminated by insects and enables it to keep all of its qualities (by staying totally dry and preventing rancidity of fatty ingredients on contact with air).

The purpose of the small sachet of malt which come along with the bag of flour is to liquefy thick porridge. This possibility of liquefaction of thick porridges is what characterizes BAMiSA flour packaging.

1.2 The packaging and labelling expertise meets 5 requirements :

- The use of standardized BAMiSA® bags.
- Hermetically sealed bags: they must be airtight.
- The weight of the flour alone, without the malt: it must be equal or slightly above 500 grams.
- The weight of the malt must be of 8 grams minimum, i.e. the sufficient quantity to ensure liquefaction of 8 porridges (≥ 1 g of malt per 60 g of flour).
- The identification of the batch: the name of the producer, place and date of production must be written in ink.

Criteria of expertise of the conditioning and labelling

The packaging of the BAMiSA flour meets quality conformity if the 5 criteria are respected.

The document 03h "BAMiSA flour. Conditioning and labelling" gives the detailed information about conditioning.

1.3 Caution-requiring points in order to reach the quality objectives concerning conditioning and labelling.

The use of BAMiSA® standardized bags present many good points for the conservation of the flour, estimated to last 6 months after the date of production written on the bag.

The quality of the sealing or welding depends on know-how but also on the condition of the bag-sealer.

Respecting the claimed weight of the flour (500g) and of the malt (≥8g) induces a strict regular checking of the scales.

The small sachet of malt is not to be omitted.

The place of production, the name of the UPA and the date of production are to be specified.

NB. A great part of the BAMiSA flour is distributed without going through the standardized bags. The flour that is produced within the community or at home is destined to be consumed in the next few

days. It can be placed in more ordinary sachets or in containers that shut (small pails). The flour must always be accompanied by malt.

2. Bacteriology

2.1 The objectives of bacteriological quality

The flours that need 'cooking' (which need heating before being consumed) are not exempt from germs. These flours are not sterilized. However, it is demanded from the producers of BAMiSA flour to respect the processes that enable to obtain the cleanest possible flour, i.e. containing the least possible germs and salmonellae at all.

The bacteriological quality objectives meet the ISO norms of the French legislation. They are as follows:

• The 30°C aerobic mesophilic bacteria represent the whole of the aerobic germs found in food. The objective set for BAMiSA flour is **not to exceed 200,000 germs per gram**.
NB. The Codex specification sets their count at less than 100,000 germs per gram.

• The 37°C enterobacteriaceae include the Escherichiae bacteria family, among which are Escherichia Coli, Klebsielleae, Protéus, Yersiniae, Salmonellae. These are the foecal germs contained in animal and human digestive tracts. The objective set for BAMiSA flour is **not to exceed 10^3 germs per gram**.
NB. The enumeration of enterobacteriaceae replaces the enumeration of total coliform bacteria or foecal coliform bacteria in the Codex.

• Salmonellae are specific enterobacteriaceae. **No salmonellae** must be detected in the flour (See the note concerning salmonellae at the end of the document).

- 37°C coagulase-positive staphylococcus (Staphylococcus aureus) are germs that can be found on skin or inside the nose. The objective set for BAMiSA flour is **not to exceed 10 germs per gram**.

• 25°C molds, (fungal Flora) are taken into account for some of them secrete toxins (yeasts are not included because they do not have any pathogenic properties). The objective set for BAMiSA flour is **not to exceed 10^3 germs per gram**.

2.2 **The bacteriological expertise** of the flour is achieved according to a "bacteriological quality scale" proposed by the APPB. On the scale, the enumeration of each germ enables to situate the quality of the flour for each germ, between +3, ''satisfactory'' quality, and -3, case when the flour is regarded as ''contaminated'', failing.

The quality of the whole is determined by the germ the enumeration of which is the worst. The bacteriological quality of the flour is compliant when the enumeration expected for each germ is reached (+3, satisfactory) or if none is over three times the accepted value (+2, acceptable).

Germs	Bacteriological quality scale					
	Expected Values (EV))	From EV to EV x 3	From EV to EV x 10	From EV to EV x 100	From EV to EV x 1000	Over EV x 1000
30°C aerobic bacteria	< 200 000 / g	600 000	2 000 000	20 000 000	200 000 000	
Enterobactériaceae *	< 1000 / g	3 000	10 000	100 000	1 000 000	
Staph. Coag +	< 10 / g	30	100	1 000	10 000	
Mold	< 1000 / g	3 000	10 000	100 000	1 000 000	
Salmonellae	No detected/ 25 g	- - - -	- - - -	- - - -	- - - -	Detected
	+3 ***satisfactory***	+2 Acceptable	***+1 Insufficient***	***-1 unsatisfactory***	***-2 unsatisfactory***	***-3 contaminated***

Criteria of the bacteriological quality of the flour according to quality scale.

NB If the expected values are exceeded, this does not prevent the consumption of the porridge, under the condition that its cooking be sufficient in order to decontaminate it. The porridge may be boiled again after its liquefaction. The boiling point temperature of liquefied porridge is superior to that of thick porridge, its “sterilization” is therefore easier.

NB The enumeration of sulfite-reducing anaerobes is not a criterion to be taken into account, as it concerns the surveillance of food of animal origin (flours with powdered milk additives).

2.3 **Caution-requiring points** in order to reach bacteriological quality goals

To optimize the bacteriological quality of the flour, it is necessary to respect the general requirements concerning the cleanliness and hygiene of premises and people. (See in Document 03c « BAMiSA flour. UPA production », paragraph C, page 9, which concerns this issue).

The grain which comes out of the grill, just roasted, has been sterilized by heat through the process. Consequently, bacteriae that are found by the bacteriological analysis result from contamination occurring while exiting the grill. The various process-steps that come after the roasting, up until the airtight bagging, must be particularly “clean” and achieved by well-trained people who are aware of hygiene essentials and without a waste of time.

If the number of some bacteriae is over the criteria limits, every-one at the UPA must search for contamination causes and remedy them in order to gain in bacteriological quality of the flour. The careful and frequent washing of hands is indispensable (the wearing of masks and gloves can be useful in the terminal phase). Equipment must be well-maintained, particularly that which is used after roasting: mill, sieves, bowls and basins... Wind and dust may be contaminating. The use of window screens on doors and windows may be necessary.

• An excess of Aerobic germs shows that there is a general deficiency in hygiene and a lack of cleanliness in the premises and equipment.

• An excess of enterobacteriaceae is proof of fecal contaminations, human or animal, most often due to animal droppings. The proximity of animals (insects, flies, rodents, lizards, poultry, birds, bats,…) must absolutely be avoided.

• An excess of Staphylococcus shows that contamination can have happened during manipulation by hand, especially if they are bruised and that the bruises might carry infection. The temporary eviction of the person during the “clean phases” is necessary. Wearing a mask may prevent contact between fingers and nose (the latter being perhaps a healthy carrier of the staphylococcus).

• An excess of mold gives the evidence that the ingredients have been contaminated after sterilization by roasting. Molds which develop inside an unclean mill (or in which is ground damp grain) are a frequent source of contamination. Regular cleaning of the mill is therefore an essential step.

In case any doubt arises concerning the cleanliness of the mill, it is recommended to cleanse it by flowing some grilled grain through it, thus entraining impurities, before grinding the BAMiSA mixture.

• The detection of salmonellae is evidence of the same causes as of the excess of enterobacteriaceae. (See note concerning salmonella at the end of document).

3. Chemistry

3.1 The quality objectives of the chemical components of the BAMiSA flour take into account the requirements of the Codex Alimentarius [(1)] [(6)] and define a flour having a high level of protein with high chemistry index (in particular lysine-rich) and having high fat

content. With the association of a cereal with two fatty legumes, it is possible to obtain excellent chemical quality. The cereal and the two fatty legumes are chosen because of their nutritional value and their local availability.

• Among the local cereal, the **'pearl millet'** come as favorite because of their protein qualities, taste and also because of the starch contained, which enables the thickening of the porridge. If lacking millet, corn (maize) or sorghum may substitute for it.

• **Soy** presents exceptional nutritional qualities because of its high content of lipid and protein (lysin) and its good digestibility once roasted.

• **Peanut** also is also very rich in protein and lipid. It is also appreciated for its gustatory quality.

The ingredients for Bamisa flour are mixed, in weight or in volume, according to “621 proportions”, « **6 / 2 / 1** »:

Ingredients	**Grilled pearl millet (or corn/maize)**	**Grilled and de-hulled soybean**	**Grilled and shelled peanut**	Sugar	Iodized salt
Proportions in weight	**60 %**	**20 %**	**10 %**	9 %	< 1%
Proportions in volumes	**6**	**2**	**1**	1/2	According to taste

Proportions of the ingredients for BAMiSA flour in % of weight or in volumes.

NB. If lacking soy the latter is replaced by beans, then the flour obtained is 'light' (low-fat), lacks lysine, and generates digestive flatulence.

The association cereal + fatty legumes enables to obtain flour having the following characteristics :

• High protein content and a protein grading almost reaching 80, i.e. that of animal protein. Lysine, which is an amino acid, is very often deficient in traditional food and is here provided by soy. Methionine is provided by the cereal.

The high protein content of the BAMiSA flour meets the CODEX requirements : « The content in protein must be approximately 15 g per 100 g of the product, based on dry weight » [(1)]. This is why the protein value of the BAMiSA flour must be **15 g/100g minimum**.

• High lipid and unsaturated fat content,

The high content of fat and essential unsaturated fatty acid (Oméga 3 and 6) is obtained by associating two leguminous-oleaginous crops, which represent 30% of the ingredients. The fat thus provides 25% of the energy value of the flour.

The lipid value of the BAMiSA flour must be **11 g/100g minimum**.

• Moderate amount of carbohydrate,

Carbohydrates are present in the flour, mainly in the form of starch, added sucrose and fibers.

The cereal, millet of maize, is the main source of starch. The chosen cereal represents 60% of the ingredients. The sucrose is provided by the added sugar which amounts to 9% of the ingredients. Carbohydrate provide 60 % of the energy value of the flour

In order not to provide carbs to the detriment of lipid and protein, the carbohydrate value of the BAMiSA flour is limited to the **63 g ± 3 g/100g range**.

NB. If one wishes to obtain a sweeter taste, it is possible to add sugar or honey in the porridge when consuming it.

• A high energy value .

The energy value mainly results in the high lipid content and the low moisture content and ash.

The energy value of the BAMiSA flour must **425 kcal or 1775 Kilojoules/100g minimum**.

• Low mineral content.

Mineral substances, measured in the form of ash, come from the minerals naturally contained in the ingredients and the added iodized NaCl.

The mineral substances of the BAMiSA flour must be **3g/100g maximum.**

• A very low moisture content.

A low moisture content is particularly important to reach as it allows long conservation of the flour while limiting more specifically the development of molds.

Thanks to the roasting of the cereal and of the legumes and also to the airtight conditioning, the flour is two to three times dryer than ordinary grain or flour.

Each gram of moisture is to the detriment of one gram of lipid or protein, and therefore, to the detriment of the energy value.

The moisture content of the BAMiSA flour must be of **5g/100g maximum.**

3.2 **The chemical expertise** takes up these objectives to become criteria. Each criterion that is reached is worth one point.

• Protein ≥ 15 g,	1 point
• Lipid ≥ 11 g,	1 point
• Carbohydrates 63 ± 3 g,	1 point
• Mineral substances ≤ 3 g	1 point
• Moisture ≤ 5 g	1 point
• Energy value ≥ 425 Kcal ou ≥ 1775 Kilojoules	1 point

Criteria for the chemical quality of 100g of BAMiSA flour.

The sample is of very good quality when its total equals 6 points, good quality when = 5 points and of acceptable quality when = 4 points.

3.3 Caution-requiring points in order to reach the objectives of the chemical quality

Deficit or excess in Protein, Lipid and Carbohydrates

The first reason why a chemical quality criterion should not be respected could be due to a mistake in proportion when mixing the roasted ingredients. The ''**table of proportions**'' of Document 03c « the making of BAMiSA flour » restates this essential point.

The quality of the grain can also be questioned, either because they were harvested before full maturity (the protein and fatty contents are at best when they are harvested when mature), or because they are of a specific variety, like peanuts which can contain more or less lipid according to variety.

Excessive moisture

During the damp season, it may be difficult to obtain a moisture rate under 5g out of 100g, but reasons other than air dampness can be the cause:

Ingredients which have not been well-dried or which have been stocked in damp places or which were harvested before reaching full maturity may indeed contain a high degree of humidity, up to 15 g for 100 g. They are more difficult to dehydrate during drying or roasting processes.

Excess moisture may also be due to too quick or insufficient draining (or dripping) and/or drying and /or roasting processes.

The final sieving should be achieved during the time of the day which is the least damp and/or when exiting the mill when the flour is still warm.

The sugar should also be completely dry.

The packaging in the sealed bags should be done rapidly after roasting in order to avoid the re-humidification of the flour.

Excess of mineral matter (excess in ashes)

The insufficient elimination of the envelopes and insoluble fibers during the winnowing and the final sieving may be the cause of the excess in mineral substances (it may be the silicium, which can be found in the husk, bales, kernel skin, bran). The good condition of the sieves must be regularly checked.

Insufficient washing and sorting does not completely eliminate sand and small pebbles. When there are sandstorms, the grain must not be dried outside.

An excess in salt (NaCl) could also be the cause.

NB. Some batches of flour which would have been fortified with the adjunction of mineral supplements (calcium in particular) could be above criterion grade without being considered negative.

Insufficient energy value .

This value is the result of the whole set of criteria.

4. Malt

4.1 The amylasic quality of the malt is measured with ~~the~~ Flow Rate (FR) ~~(liquid velocity)~~ of two different porridges after the addition of the malt.

The "**liquefying capacity**" of malt is measured on a porridge prepared with the flour according to proportions: "one volume of flour for two volumes of water" ("1+2+3 recipe")

Its ''**amylasic activity**'' is measured on a standardized Maïzena® porridge.

Document 04e: « Malt for porridge, quality objectives » and Document 05e: « BAMiSA porridge, quality objectives », develop this issue.

4.2 The expertise of the malt is achieved according to the following scale:

The porridge stays	FR	Thickness grade	Amylasic activity of the malt is
Very thick	Remains **< 5**	**0**	**none**
Thick	is **≥ 5** but **≤ 29**	**±**	**very weak**
Doughy	is **≥ 30** but **≤ 59**	**+**	**weak**
The porridge becomes			
Creamy	is **≥ 60** but **≤ 119**	**++**	**average**
Fluid	is **≥ 120** but **≤ 179**	**+++**	**strong**
Liquid	but **≥ 180**	**++++**	**very strong**

Evaluation scale of the amylasic quality of the malt

The malt must make the porridge creamy, fluid or liquid in order to make it quickly and easily edible for young children, without being diluted.

4.3 Caution-requiring points to reach quality objectives of the malt.

Before putting the malt into the sealed bag, it is necessary to check that its liquefying capacity is sufficient by testing it on a porridge prepared according to proportions: 1 volume of flour + two volumes of water.

It is indeed useless to add malt which "doesn't work".

5. Other elements examined during the expertise.

• Smell and colour of the flour. Its colour can vary according to the ingredients contained and the degree of toasting. It is between ivory yellow and brown beige.

• Consistency of the porridge before the action of malt. Some cereal (corn) give very compact porridges which are difficult to liquefy with malt.

• Nature of the cereal used. It is preferable to indicate it by crossing out either “millet” or “corn”, written on the bag (in order to respect the taste preferences of the consumer, some UPA produce both kinds of BAMiSA flour).

• Fineness of the grind. It determines the texture of the porridge. The finer the porridge is, the more appreciated it is. Hard cereal or corn cereal are harder to grind finely. Grinding mills generally enable finer grist than that obtained with hammermills.

• The origin of the malt. The origin of the germinated cereal that is used (sorghum, pearl millet, corn) is interesting to know so as to identify the best sources of local amylases.

• Sale price. Indication of price is also preferable for the sake of transparency.

• Organoleptic qualities of the concentrated liquefied porridge: taste, smell, colour, aspect, texture (fine, unrefined, granular).

These elements when observed are not submitted to criteria.

6. Elements which are not examined during expertise

• Fibre proportion .

Fibres are carbohydrates which are accounted for the determination of the total amount of sugar. The dehulling of the soy and peanuts, the winnowing of the grain and then the sieving of the flour eliminate a maximum amount of insoluble fibres. The rate of fibres is not measured but it is normally low.

• Dosage of micronutrients.

The BAMiSA flour is not a ‘fortified flour’. However, each of the ingredients provides their own minerals and vitamins. The values of mineral content are established according to food composition charts.

For 100g of flour, the mineral values are calculated as such: Iron 10 mg, Zinc 6 mg, Copper 0,57 mg, Calcium 100 mg, Phosphorus 260 mg, Magnesium 110 mg.

For 100 Kcal, the mineral values are calculated as such: Iron 2,35 mg, Zinc 1,4 mg, Calcium 23,53 mg, Magnesium 25,88 mg,

Iodine is provided by iodized salt, the iodination validity of which should be checked before its incorporation (with rapid analysis test kits).

The cereals provide vitamins B. In order to compensate for the low rate in vitamin C, one is requested to add fresh fruit juice or tomato juice to the porridge. The deficiency in vitamin A may be compensated by adding red palm oil in the porridge.

The ‘’fortification’’ of the flour is possible (cf. Document 03g BAMiSA flour Fortification). The adjunction of vitamins and minerals may also be done directly in the porridge. (Cf. Document 05g La bouillie BAMiSA Fortification).

Remark : The BAMiSA flour is destined to be consumed in the form of **liquefied concentrated porridge** ('bouillie concentrée liquéfiée' - BCL). At equal level

of viscosity, the value in micronutrients of a BCL is three to four times higher than that of ordinary porridge.

• Dosage of phytotoxins

The rate of aflatoxin is not measured during usual expertises and their dosage cannot be achieved on a regular basis because of the high cost of the analysis.

The aflatoxines are destroyed neither by roasting nor cooking. In order for the rate of aflatoxin to be as low as possible, it is important to provide the UPAs with good quality grain (not moldy), to store them in non-humid areas, and, when being prepared, eliminate a maximum amount of grain potentially contaminated by the ‘’aspergillus’’ mold which secretes aflatoxin*, and more specifically peanuts bearing black spots.

The washing must be achieved until water is clear.

NB. There are two possible source types of aflatoxin : that which is present in the raw material and, to a lesser extent, that which would be produced by the mold contained in a flour contaminated after toasting and baldy stored.

• Dosage of antinutritional factors.

The toasting of the ingredients destroys the anti-nutritional substances such as antitrypsin and anti-hemagglutinin contained in soy. It is useless to try and detect them, as the elements of BAMiSA flour have been roasted.

• The degree of roasting.

The intensity of the roasting of the ingredients is hard to evaluate. The toasting must be sufficient to pre-cook, sterilize, dehydrate and destroy the antinutritional factors. It provokes a Maillard reaction (browning reaction) which develops a pleasant taste. It reduces the smell of soy which may not be appreciated.

But overroasting alters the quality of proteins and gives the flour a dark colour and a “burnt” smell which can be quite unpleasant.

• The bacteriology of the malt.

Malt cannot be processed through heat to be sterilized because this would destroy amylases. The preparation of the malt must be achieved under maximum hygiene conditions (Cf. Document 04c « Preparation of the malt for the porridge »).

Under the condition that the porridge be consumed shortly after preparation, the small quantity of malt added to the hot porridge is almost non-contaminating. If the liquefied concentrated porridge is not consumed rapidly, then it is required to bring it to another short boil.

7. Note about the salmonella exceptionally found in the samples of BAMiSA® flour.

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The bacteriological analysis of samples of BAMiSA flour indicates an rare and unusual presence of salmonella.

The detection of a single salmonella in 25 g of flour is enough to confer to the sample the mark “insufficient quality”.

Where do these salmonellae come from? Must this give cause to concern?

Salmonella comes from the enteriobacteriacea family (fecal germs), a bacteria commonly found in animal excrement, domesticated or not, ***(goats, chicken, pigeons, rodents, lizards,...) and sometimes from human beings (healthy carriers).***

Salmonellae may cause two types of infections:

• Typhic salmonellosis (Salmonella Typhi and Salmonella Paratyphi), generating typhoid and paratyphoid fevers (serious long-term illnesses),

• Non-typhic salmonellosis, among which (there are more than 2,000 serotypes) some can be pathogenic for Man and cause gastroenteritis, depending on strain, quantity ingested and host susceptibility *(HIV immunosuppressed people and young children can develop serious non-typhic salmonellosis***).**

In current practice, laboratories do not perform serotyping of salmonellae detected in the flour. The identification of a salmonella which has been detected may be useful to find out its source and whether it is pathogenic or not.

A child or adult who eats with bare hands is probably in daily contact with non-pathogenic salmonellae, having no consequences on their health. Water, crockery, fruit, eggs, food, domestic animals, fingers can be potential carriers of salmonellae. Ingesting non-typhoidal salmonellae is thus a relatively commonplace situation when strict food hygiene conditions cannot be respected. Cooking the food, boiling the water eliminate salmonellae.

As a conclusion

► ***The detection of*** salmonellae in samples of BAMiSA flour indicate that hygiene when manufacturing must be improved. The objective is to obtain a flour, the quality of which would be graded as “satisfactory”, both for the safety of children food and to meet the legitimate requirements of the Health Care Authorities.
► The presence of salmonellae in the usual living environment is no reason to accept their presence in BAMiSA flour.
► As it is cooked, the BAMiSA flour that is graded as 'insufficient” may be consumed without proven risk.

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Bibliography.

The ‘’documents’’ afore mentioned direct to the site: www.bamisagora.org

(1) CAC/GL 08-1991 revised in 2013.
(2) More specifically the 'Laboratoire Départemental d’Analyses', 76175 ROUEN, France.
(3) STAN 146-1985. General norm for labelling and allegations concerning prepackaged diet food.
(4) CAC/RCP 21-1979 « Recommended International Codes of Hygienic Practice required for food intended for infants and young children » which give in § 8.3.3. microbiological specifications of advisory status for “dehydrated products necessitating heating before consumption”).
(5) J.O./ R.F, A.M. 01/07/1976. « Diet food for children necessitating cooking before consumption ».
(6)CODEX STAN 74 1981/1991 and CODEX STAN 074-1981, Rév.1-2006 « Cereal-based processed food intended for infants and young children ».