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IDT

DRAFT MALAWI STANDARD

Edible casein products – Specification

NOTE: This is a draft proposal and it shall neither be used nor regarded as a Malawi Standard

ICS 67.100.10 DMS 1396:2016

Edible casein products – Specification

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FOREWORD

This draft Malawi standard has been prepared to provide requirements for edible casein products.

The draft standard is identical to the following international standard:

Codex Stan 290:1995, *Standard for edible casein products.*

Acknowledgement is made for the use of the information.

TECHNICAL COMMITTEE

This draft Malawi standard was prepared by the *Technical Committee MBS/TC 23, Milk and milk products* and the following companies, organizations and institutions were represented:

- Blantyre Agricultural Development Division (Ministry of Agriculture)
- Department of Animal Health and Livestock Development (Ministry of Agriculture);
- Consumers Association of Malawi;
- Dairibord Malawi Limited;
- Lilongwe Dairy (2001) Limited;
- Lilongwe University of Agriculture and Natural Resources (Bunda Campus);
- Malawi Bureau of Standards;
- The Polytechnic (University of Malawi);
- Shire Highlands Milk Producers Association;
- Suncrest Creameries.

NOTICE

The approved Malawi standard shall be reviewed every five years or whenever necessary in order to keep abreast of progress. Comments are welcome and shall be considered when the standard is being reviewed.

DRAFT MALAWI STANDARD

Edible casein products – Specification

1 SCOPE

This draft Malawi standard applies to edible acid casein, edible rennet casein and edible caseinate, intended for direct consumption or further processing, in conformity with the description in section **3** of this draft standard.

2 NORMATIVE REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this Malawi standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on current valid national and international standards can be obtained from the Malawi Bureau of Standards.

MS 19: *Labelling of pre-packed foods – General standard;*

MS 21: *Food and food processing units – Code of hygienic conditions;*

MS 237: *Food additives – General standard;*

MS 75: *Milk and milk products – Methods of sampling and analysis;*

MS 302: *Contaminants and toxins in foods – General standard;*

MS 744: *Use of dairy terms – General standard;*

MS 935: *Principles for the establishment and application of microbiological criteria for foods;*

MS 1113: *Code of hygienic practice for milk and milk products;*

3 DESCRIPTION

3.1 **Edible acid casein** is the milk product obtained by separating, washing and drying the acid-precipitated coagulum of skimmed milk and/or of other products obtained from milk.

3.2 **Edible rennet casein** is the milk product obtained by separating, washing and drying the coagulum of skimmed milk and/or of other products obtained from milk. The coagulum is obtained through the reaction of rennet or other coagulating enzymes.

3.3 **Edible caseinate** is the milk product obtained by action of edible casein or edible casein curd coagulum with neutralizing agents followed by drying.

4 ESSENTIAL COMPOSITION AND QUALITY FACTORS

4.1 Raw materials

Skimmed milk and/or other products obtained from milk.

4.2 Permitted ingredients

(a) Starter cultures of harmless lactic acid producing bacteria;

(b) Rennet or other safe and suitable coagulating enzymes;

(c) Potable water.

4.3 Composition

Table 1 – Compositional requirements for edible casein products

S/N		Rennet casein	Acid casein	Caseinates
1	Minimum milk protein in dry matter[(a)]	84.0 % m/m	90.0 % m/m	88.0 % m/m
2	Minimum content of casein in milk protein	95.0 % m/m	95.0 % m/m	95.0 % m/m
3	Maximum water[(b)]	12.0 % m/m	12.0 % m/m	8.0 % m/m
4	Maximum milkfat	2.0 % m/m	2.0 % m/m	2.0 % m/m
5	Ash (including P_2O_5)	7.5 % m/m (min.)	2.5 % m/m (max.)	–
6	Maximum lactose[(c)]	1.0 % m/m	1.0 % m/m	1.0 % m/m
7	Maximum free acid	–	0.27 ml 0.1 N NaOH/g	–
8	Maximum pH value	–	–	8.0

Note 1: (a) Protein content is 6.38 multiplied by the total Kjeldahl nitrogen determined.

Note 2: (b) The water content does not include water of crystallization of the lactose.

Note 3: (c) Although the products may contain both anhydrous lactose and lactose monohydrate, the lactose content is expressed as anhydrous lactose. 100 parts of lactose monohydrate contain 95 parts of anhydrous lactose.

In accordance with the provision of section **5.3.3** of MS 744, edible casein products may be modified in composition to meet the desired end-product composition. However, compositional modifications beyond the minima or maxima specified above for milk protein in dry matter, casein, water, milkfat, lactose and free acid are not considered to be in compliance with the section **5.3.3**.

5. FOOD ADDITIVES

Only those additives provided in MS 237 shall be used for edible casein products. **Annex A** provides food additives which were permitted for use at the time of publishing this draft standard. However, most recent information on additives can be obtained from the Codex Alimentarius Commission.

6 CONTAMINANTS

The products covered by this standard shall comply with the maximum levels for contaminants that are specified for the product in MS 302.

The milk used in the manufacture of the products covered by this Standard shall comply with the Maximum Levels for contaminants and toxins specified for milk by MS 302 and with the maximum residue limits for veterinary drug residues and pesticides established for milk by the Codex Alimentarius Commission.

7 HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of MS 21, MS 1113 and other relevant Codex texts such as Codes of hygienic practice and Codes of practice. The products should comply with any microbiological criteria established in accordance with MS 935.

8 LABELLING

In addition to the provisions of MS 19 and MS 744, the following specific provisions apply:

8.1 Name of the food

The name of the food shall be “Edible acid casein,” “Edible caseinate” or “Edible rennet casein” according to the descriptions in section **3** and the compositions in section **4.3**.

8.2 Labelling of non-retail containers

Information required in section **8** of this standard and sections **4.1** to **4.8** of MS 19 and, if necessary, storage instructions, shall be given either on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

9 METHODS OF SAMPLING AND ANALYSIS

Sampling and analysis of milkfat products shall be done in accordance with MS 75.

APPENDIX – ADDITIONAL INFORMATION

The additional information below does not affect the provisions in the preceding sections which are those that are essential to the product identity, the use of the name of the food and the safety of the food.

1. OTHER QUALITY FACTORS

1.1 Physical appearance

White to pale cream; free from lumps which do not break up under slight pressure.

1.2 Flavour and odour

Not more than slight foreign flavours and odours. The product must be free from offensive flavours and odours.

2. PROCESSING AIDS

Acids used for precipitation purposes:

INS no.	Name
260	Acetic acid, glacial
270	Lactic acid, L-, D- and DL-
330	Citric acid
338	Orthophosphoric acid
507	Hydrochloric acid
513	Sulphuric acid
For renneting enhancement purposes: 509	Calcium chloride

3. ADDITIONAL QUALITY FACTORS

	Rennet casein	Acid casein	Caseinates
Maximum sediment (scorched particles)	15 mg/25g	22.5 mg/25g	22.5 mg/25g (spray dried) 81.5 mg/25g (roller dried)

Heavy metals

The following limits apply:

Metal	Maximum limit
Copper	5 mg/kg
Iron	20 mg/kg (50 mg/kg in roller dried caseinates)

4. ADDITIONAL METHODS OF ANALYSIS

See CODEX STAN 234.

Annex A

Additives for edible casein products

Table A1 – Additives for edible casein products

INS No.	Name of additive	Maximum level
Acidity regulators		
170	Calcium citrates	Limited by GMP
261(i)	Potassium acetate	
262(i)	Sodium acetate	
263	Calcium acetate	
325	Sodium lactate	
326	Potassium lactate	
327	Calcium lactate	
328	Ammonium lactate	
329	Magnesium lactate, DL-	
331	Sodium citrates	
332	Potassium citrates	
333	Calcium citrates	
345	Magnesium citrates	
380	Triammonium citrates	
339	Sodium phosphates	4,400 mg/kg singly or in combination expressed as phosphorous*
340	Potassium phosphates	
341	Calcium phosphates	4,400 mg/kg singly or in combination expressed as phosphorous*
342	Ammonium phosphates	
342	Magnesium phosphates	
452	Polyphosphates	2,200 mg/kg singly or in combination expressed as phosphorous*
500	Sodium carbonates	Limited by GMP
501	Potassium carbonates	
503	Ammonium carbonates	
504	Magnesium carbonates	
524	Sodium hydroxide	
525	Potassium hydroxide	
526	Calcium hydroxide	
527	Ammonium hydroxide	
528	Magnesium hydroxide	
Emulsifiers		
322	Lecithins	Limited by GMP
471	Mono- and di-glycerides of fatty acids	
Bulking agents		
325	Sodium lactate	Limited by GMP
Anti-caking agents		
170(i)	Calcium carbonate	4,400 mg/kg singly or in combination*
341(iii)	Tricalcium phosphate	
343(iii)	Trimagnesium phosphate	
460	Cellulose	
504(i)	Magnesium carbonate	
530	Magnesium oxide	
551	Silicon dioxide, amorphous	
552	Calcium silicate	

INS No.	Name of additive	Maximum level
553	Magnesium silicates	4,400 mg/kg singly or in combination*
554	Sodium aluminosilicate	
556	Calcium aluminium silicate	
559	Aluminium silicate	
1442	Hydroxypropyl distach phosphate	

Note – * Total amount of phosphorous shall not exceed 4,400 mg/kg.

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THE MALAWI BUREAU OF STANDARDS

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Industry and Trade. Set up in 1972 by the Malawi Bureau of Standards Act (Cap: 51:02), the Bureau is a parastatal body whose activities aim at formulating and promoting the general adoption of standards relating to structures, commodities, materials, practices, operations and from time to time revise, alter and amend the same to incorporate advanced technology.

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