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ICS 67.120.20

EAST AFRICAN STANDARD

Edible egg albumen powder — Specification

EAST AFRICAN COMMUNITY

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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Introduction

Egg albumen powder is used in food, pharmaceutical, cosmetic and beverage industries. The powder is prepared only from the white of hen's eggs. This standard has been formulated in order to ensure production of egg albumen powder of right quality.

In the preparation of this East African Standard, the following sources were consulted extensively:

Regulations Governing the Voluntary Grading of Shell Eggs, 7 CFR Part 56, Effective March 30, 2008

United States Standards, Grades, and Weight Classes for Shell Eggs, AMS 56, Effective July 20, 2000

IS 10382:1982(R2000), *Specification for Edible Egg Albumen Powder*

Codex Alimentarius website: http://www.codexalimentarius.net/mrls/vetdrugs/jsp/vetd_q-e.jsp

USDA Foreign Agricultural Service website: <http://www.mrlatabase.com>

USDA Agricultural Marketing Service website: <http://www.ams.usda.gov/AMSV1.0/Standards>

European Union: http://ec.europa.eu/enterprise/sectors/pharmaceuticals/veterinary-use/maximum-residue-limits/index_en.htm

Assistance derived from these sources is hereby acknowledged.

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Edible egg albumen powder — Specification

1 Scope

This standard specifies the requirements and the methods of sampling and test for edible egg albumen powder.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

AOAC Official Method 931.06:1931, *Phosphorus (Total) (P_2O_5) in Eggs*

CAC/RCP 1, *Recommended international code of practice — General principles of food hygiene*

EAS 35, *Edible salt — Specification*

EAS 12, *Drinking (potable water) — Specification*

EAS 38, *Labelling of prepackaged foods — Specification*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 41, *Fruits, vegetables and derived products — Sampling and methods of test*

EAS 103, *Schedule for permitted food additives*

EAS 123, *Distilled water — Specification*

ISO 936, *Meat and meat products — Determination of total ash*

ISO 1736, *Dried milk and dried milk products — Determination of fat content — Gravimetric method (Reference method)*

ISO 1737, *Evaporated milk and sweetened condensed milk — Determination of fat content — Gravimetric method (Reference method)*

ISO 4831, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms — Most probable number technique*

ISO 4832, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique*

ISO 4833, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 degrees C*

ISO 5537, *Dried milk — Determination of moisture content (Reference method)*

ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

ISO 6491, *Animal feeding stuffs — Determination of phosphorus content — Spectrometric method*

ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of *Salmonella* spp.*

ISO 8156, *Dried milk and dried milk products — Determination of insolubility index*

ISO 9390, *Water quality — Determination of borate — Spectrometric method using azomethine-H*

ISO 13730, *Meat and meat products — Determination of total phosphorus content — Spectrometric method*

ISO 21527-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colony count technique in products with water activity greater than 0.95*

ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

3 Definitions

For the purpose of this standard the following definition shall apply:

egg albumen powder

The product prepared from albumen of sound hen's eggs by a process of spray drying.

4 Requirements

4.1 Hygienic requirements of processing unit

4.1.1 The material shall be prepared and handled under strict hygienic conditions, by persons free from contagious and infectious diseases; and only in premises maintained in a thoroughly clean and hygienic condition, having adequate and safe water supply (see EAS 39/CAC/RCP 1) and duly approved and licensed by the appropriate authorities. All workers shall use clean and washed clothings. Necessary precautions shall be taken to prevent incidental contamination of the product from soiled equipment or from personnel suffering from injuries.

4.1.2 All equipment coming in contact with raw materials or products, in the course of manufacture shall be kept clean. An ample supply of steam and water, hoses, brushes and other equipment necessary for proper cleaning of machinery and equipment shall be available. As and when necessary, the equipment may be sanitized with hypochlorite or any other permissible liquid sanitizer.

4.2 Processing requirements

4.2.1 The eggs, before breaking, shall be properly candled, and cleaned with wash water containing detergent-cum-permissible sanitizing agents. The shell of the eggs shall be disinfected and air-dried.

4.2.2 Glucose present in the liquid contents of original eggs shall be removed before spray drying.

4.2.3 The liquid contents of the eggs shall be pasteurized by heating for not more than 3 minutes, at 54 °C to 56 °C, in a plate type pasteurizer, or by any other suitable method.

4.3 Finished product requirements

4.3.1 The egg albumen powder shall have an uniform, straw to light or pale yellow colour, and a smooth texture; and shall be free from gritty material.

4.3.2 Egg albumen powder shall retain the original properties of albumen in fresh egg white, for example, solubility of protein, aerating capacity, binding power and palatability. The albumen powder shall reconstitute readily and quickly when it is mixed with seven times its volume of lukewarm water

(about 40 °C), after a preliminary mixing to form a smooth paste. On reconstitution, the slurry shall be free from unpleasant off-flavours.

4.3.3 Egg albumen powder shall be free from discolouration, added preservatives, artificial colouring matter and pathogenic microorganisms.

4.3.4 The product shall also comply with the requirements given in Table 1.

Table 1 — Requirements for edible albumen powder

S/No.	Characteristic	Requirement	Method of test
(1)	(2)	(3)	(4)
i)	Moisture content, % by mass, Max	7.0	Annex A of CD/K/607:2010
ii)	Protein (N × 6.68), % by mass, Min	79.0	ISO 9390
iii)	Solubility (Haenni method), % by mass, Min	80.0	Annex C of CD/K/607:2010 ISO 8156
iv)	pH, Max	8.0	Annex A
v)	Total plate count, per gram, Max	25 000	ISO 4832
vi)	Yeast and mould count, per gram, Max	50	ISO 21527-2
vii)	Coliform count, per gram, Max	10	ISO 4833
viii)	<i>Salmonella</i>	Absent	ISO 6579
ix)	Foaming ability	To satisfy test	Annex B

5 Packing and marking

5.1 Packing

5.1.1 Egg albumen powder shall be packed in suitable tins or in air-tight flexible containers as agreed to between the purchaser and the vendor.

5.1.2 Packing in cases

The container shall be packed in suitable cases. The number of containers in each case shall be subject to agreement between the purchaser and the packer.

5.2 Marking

5.2.1 The containers shall be marked either by printing or lithographing on the containers themselves or by attaching labels printed on paper as agreed to between the purchaser and the vendor. The markings on the label shall give the following information:

- Name of the material along with brand name, if any;
- Name and address of the manufacturer;
- Net mass of the contents;
- Batch number or code number, and date of manufacture;
- Date of expiry;
- Manufacturing licence number; and
- Any other requirement as given OIML R87, *Quantity of product in prepackages*.

5.2.2 Each container may also be marked with a Certification Mark.

6 Sampling

The method of drawing representative samples of the material and the criteria for conformity shall be as prescribed in Annex E of CD/K/607:2010.

7 Tests

7.1 Tests shall be carried out as prescribed in the appropriate appendices specifications given in Table 1.

7.2 Quality of Reagents — Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (EAS 123) shall be used.

NOTE 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

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Annex A
(normative)**Determination of pH****A.1 Apparatus****A.1.1 pH meter** — suitable type.**A.2 Reagent****A.2.1 Standard Buffer Solution****A.3 Procedure**

Weigh accurately 10 g, of material in a 250-ml beaker, add 100-ml of water and mix. Allow the mixture to stand for ten minutes with occasional stirring till uniform suspension results. Take its pH reading by observing all the precautions given for the instrument by its manufacturer.

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Annex B
(normative)

Determination of foaming ability of egg albumen powder

Procedure

Take 0.5 g of the egg albumen powder in a 100-ml glass stoppered graduated cylinder. Simultaneously start a stop watch and add 25-ml of water. Mix thoroughly the egg albumen powder and water by shaking the stoppered cylinder lengthwise exactly for one minute and let it stand for 15 minutes. At the end of 15 minutes, note the volume of foam in the cylinder. The powder shall be deemed to have satisfied the test when it produces 50-ml of foam and the foam retains its stability at 50-ml for minimum one hour.

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