COEI-1-OEUALB Egg (Albumin of)

Ovalbumin

Albumen ovi

1. Objective, origin and scope of application

The albumin of an egg is obtained by desiccating fresh egg whites. It is found in the form of a fine, white, very light powder which is not completely soluble in water, but is soluble in certain alkaline solutions.

Fining agent for clarifying wines.

Egg albumin is sold in powder or spray form, or it may be used directly in the form of albumin from fresh or sterilized eggs.

Egg albumin is precipitated by tannin. Typically, 2 g of pure tannin are required to precipitate 1 g of egg albumin.

2. Labelling

The label should indicate the storage, hygienic, and safety conditions, as well as the optimal use-by date.

3. Determination of identifying properties

3.1. Preparation of a 10g/l Solution and Properties

3.1.1. Prepare an egg albumin slution by weakening the power with a very small quantity of water, so as to give a homogenous paste. Next, weaken gradually in order to obtain a solution having a concentration of 10g/l. This solution must have no unpleasant taste or odor.

This solution will have a pH of between 6.5 and 7. It will foam abundantly when shaken and will coagulate when heated in the presence of neutral salts.

Ovalbumin precipitate from its solutions by ammonium sulfate dissolved at saturation, by nitric acid and by alcohol

3.1.2. The pH of albumin from fresh eggs ranges between 8.5 and 9.5.

3.2. Disclosure of the Presence of Gum, Dextrin, and Gelatin

To 10 ml of a solution (concentration: 10 g/l) (Par. 3.1), add 0.5 ml concentrated nitric

acid (R). Heat to 50-60°. A precipitate will form. Allow to cool, then filter. The filtrate should be colorless and clear, and should not become colored when an iodo-iodized solution (R) is added. No opalescent ring should form when 5 ml filtrate and 5 ml alcohol at 95% by volume are placed one on top of the other without mixing.

3.3. Desiccation Loss

In a 70 mm diameter silica dish with cover, place 2 g egg albumin. Dry in an oven at 100-105° for 6 hours. Allow to cool in the uncovered dish in a drying apparatus. Weigh. Let **p** be the quantity of dry residue. Weight loss should not exceed 10 pp 100.

When albumin from fresh egg is used, the real dry extract must be greater than 10.5%.

All of the limiting values given above are for dry product.

3.4. Ash

Incinerate the dry residue obtained from the test (Par. 3.4) by gradually heating to 600° C in a muffle furnace, after dusting the egg albumin with 0.2 to 0.3 g paraffin without ash, in order to prevent the material mass from overflowing.

The proportion of ash must not exceed 6.5 pp 100.

3.5. Total Nitrogen

Total nitrogen is determined using the technique described in the annex. The total nitrogen content must exceed 12 pp 100.

4. Tests

4.1. Preparation of the Test Solution

After weighing, dissolve the ash in 2 ml concentrated hydrochloric acid (R) and 10 ml water. Heat to trigger dissolution and added distilled water to obtain a volume equal to 25 times the weight of the dry egg albumin.

l of this solution contains the mineral substances from 0.04 g dry egg albumin.

4.2. Heavy metals

To 10 ml of the test solution prepared according to Par. 4.1, add 2 ml of a buffer solution (pH: 3.5 (R)) and 1.2 ml thioacetaminde reagent (R). No precipitate should form. If the mixture becomes colored, the coloration should be less intense that that of the control prepared as indicated in the annex. (heavy metals content, expressed

with respect to lead, should be less than 10 mg/kg.)

4.3. Arsenic

Using the technique described in the annex, determine arsenic content in the test solution (Par. 4.1). Content l should be less than 3 mg/kg.

4.4. Lead

Using the technique described in the Compendium, determine lead content in the test solution (Par. 4.1). Content l should be less than 5 mg/kg.

4.5. Mercury

Using the technique described in the annex, determine mercury content in the test solution (Par. 4.1). Content l should be less than 1 mg/kg.

5. Storage

Egg albumin should be stored in packages which ensure effective protection from moisture and external contamination in places in which temperatures are moderate.