

Macroanalytical Procedures Manual (MPM)

V-6. Dairy, Cheese, and Related Products

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(1) Scope

This method describes a procedure for determining contamination in casein and sodium caseinate caused by discrete particulate filth from insects, birds, and other sources. The method involves direct separation of contaminants from the product by screening. Casein is a white to yellowish granular protein precipitate made from skim milk by the action of dilute acid or rennet. Sodium caseinate, a white powder, is produced by treating casein with a dilute NaOH solution and then spray-drying the soluble material. These products are used as protein supplements in dietetic foods, bakery products, stews, soups, and animal feeds. Sodium caseinate is also used as a binder, emulsifier, a whipping agent in food products, and as a prime constituent of nondairy cream.

(2) Applicable Documents

None

(3) Defects

These products may become contaminated with manure and plant fragments, insect and rodent filth, feathers, and other extraneous material.

(4) Procedure: Determination of Contamination Caused by Extraneous Material in Casein and Sodium Caseinate

a. Sample Preparation -- Take a representative or selective number of analytical units from the sample, depending on the history of the lot. At a minimum, collect 6 subsamples, each with a minimum of 454 g.

b. Visual Examination – Examine at least 6 subsamples. Sift a minimum of 100 g of the subsample on an appropriately sized sieve. Examine for whole insects, rodent pellets, and other extraneous materials. It is also important to be aware of the presence of clumps of product, which may be a sign of contamination with rodent urine. Identify findings to the lowest taxonomic level possible.

The AOAC xanthydrol test for urea is not applicable for non-fat dry milk. (Freeman 1969).

c. Report -- Report results using the format in AOAC 970.66 Light and Heavy Filth General: B. Special Techniques (i) Format for Reporting Filth.

References Cited in Section

Freeman, C. C. (1969). Note on Non-Applicability of AOAC Xanthydrol Test for Urea When Applied to Non-Fat Dry Milk. *Journal of the Association of Official Analytical Chemists* 52(5), 1049.

Official Method 970.66B(i) Light and Heavy Filth General: B. Special Techniques (i) Format for Reporting Filth. *Official Methods of Analysis of AOAC INTERNATIONAL*, Chapter 16

Revision History

Version No.	Purpose of change	Date
V0	New process	1984
V1	Electronic version	1998
V2	Applicable document reference removed Visual examination details added Information on number of subs and amount per sub was added	2023