



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Dairy
Division**

United States Standards for Grades of Edible Dry Casein (Acid)

Effective July 20, 1968

United States Standards for Edible Dry Casein (Acid)¹

§ 58.2800 *Definitions.*

(a) *Edible dry casein (acid)*. (1) For the purposes of these standards edible dry casein (acid) is the pulverized or unpulverized product resulting from washing, drying or otherwise processing the coagulum resulting from acid precipitation of skim milk which has been pasteurized before or during the process of manufacture in a manner approved by the Administrator.

(2) The product shall have been produced in a plant under conditions suitable for the manufacture of human food and packaged in a container which will prevent contamination, deterioration, and/or development of a public health hazard under normal conditions of storage and transportation.

(b) *Administrator*. The Administrator of the Agricultural Marketing Service or any other officer or employee of the Agricultural Marketing Service of the Department to whom there has heretofore been delegated, or to whom there may hereafter be delegated the authority to act in his stead.

U.S. Grades

§ 58.2801 *Nomenclature of U.S. grades.*

The nomenclature of U.S. grades is as follows:

(a) U.S. Extra.

(b) U.S. Standard.

§ 58.2802 *Basis for determination of U.S. grades.*

(a) The U.S. Grades of edible dry casein (acid)--are determined on the basis of:

(1) Flavor and odor, physical appearance, bacterial estimate on the basis of standard plate count and coliform count, protein content, moisture content, milkfat content, extraneous materials, and free acid.

¹Compliance with these standards does not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act.

(2) Additional optional tests for Salmonella or Staphylococcus, metals, yeast and mold as listed in § 58.2805 that have been made at the request of the applicant for the service or at the option of the Department.

(b) The final U.S. Grade shall be established on the basis of the lowest ratings of any one of the applicable quality characteristics present in representative samples of the lot.

§ 58.2803 *Requirements for U.S. Extra grade.*

U.S. Extra Grade edible dry casein (acid) shall conform to the following requirements:

(a) *Flavor and odor.* Bland natural flavor and odor and free from offensive flavors and odors such as sour or cheesy.

(b) *Physical appearance.* Is white to cream colored; if pulverized, free from lumps that do not break up under slight pressure.

(c) *Bacterial estimates.* Standard plate count not more than 30,000 per gram. Coliform count negative per 0.1 gram.

(d) *Protein content.* Not less than 95 percent, dry basis (Nitrogen x 6.38).

(e) *Moisture content.* Not more than 10 percent.

(f) *Milkfat content.* Not more than 1.5 percent.

(g) *Extraneous materials.* Scorched particles not more than 15 mg. and free from foreign materials in 25 grams.

(h) *Free acid.* Titrated to not more than 0.20 ml. of 0.1 N NaOH per gram.

§ 58.2804 *Requirements for U.S. Standard grade.*

U.S. Standard Grade edible dry casein (acid) shall conform to the following requirements:

(a) *Flavor and odor.* Not more than slight unnatural flavors or odors and free from offensive flavors and odors such as sour or cheesy.

(b) *Physical appearance.* Is white to cream colored; if pulverized free from lumps that do not break up under moderate pressure.

(c) *Bacterial estimates.* Standard plate count not more than 100,000 per gram. Coliform count not more than 2 per 0.1 gram.

(d) *Protein content*. Not less than 90 percent, dry basis (Nitrogen x 6.38).

(e) *Moisture content*. Not more than 12 percent.

(f) *Milkfat content*. Not more than 2 percent.

(g) *Extraneous materials*. Scorched particles not more than 22.5 mg. and free from foreign materials in 25 grams.

(h) *Free acid*. Titrated to not more than 0.27 ml. of 0.1 N NaOH per gram.

§ 58.2805 *Optional tests*.

There are certain tests in addition to those specified in §§ 58.2803 and 58.2804 which may be run occasionally at the option of the Department and will be run whenever they are requested by the buyer or seller. Certain of these tests, such as ash, metals, and lactose should be run on first lots received and periodically thereafter. Also, specific uses of the product may necessitate additional tests. These optional tests are listed below together with appropriate recommended criteria.

(a) *Most frequently used particle size*. 30, 60, or 80 mesh.

(1) 30 mesh:

100 percent -- must pass 30 ASTM screen.

10 percent -- may pass 60 ASTM screen.

(2) 60 mesh:

99 percent -- must pass 50 ASTM screen.

10 percent -- may pass 80 ASTM screen.

(3) 80 mesh:

100 percent -- must pass 60 ASTM screen.

85 percent -- may pass 80 ASTM screen.

(4) Other mesh sizes as specified.

(b) *Ash (phosphorus fixed)*. Not more than 2.2 percent.

(c) *Percent by weight of metals*. (1) Copper, maximum, 5 p.p.m.

(2) Lead, maximum, 5 p.p.m.

(3) Iron, maximum, 20 p.p.m.

- (d) *Yeast and mold*. Not more than 5 per 0.1 gram.
- (e) *Thermophiles*. Not more than 5,000 per gram.
- (f) *Reducing sugars (as lactose)*. Not more than 1 percent.
- (g) *Staphylococcus (coagulase positive)*. Negative.
- (h) *Salmonella*. Negative in 100 gram sample.

§ 58.2806 *U.S. grade not assignable.*

Edible dry casein (acid) which fails to meet the requirements of U.S. Standard Grade; or of Salmonella or Staphylococcus tests when such tests have been made; or product manufactured, packaged or transported under conditions unsuitable for human food or otherwise found to be unwholesome shall not be assigned a U.S. Grade.

§ 58.2807 *Test methods.*

(a) Testing methods contained in “Methods for the Analysis of Edible Dry Casein (acid),” Dairy Division Inspection and Grading Branch Laboratory, Agricultural Marketing Service, U.S. Department of Agriculture, or latest revision thereof, shall be used.

§ 58.2808 *Sampling methods.*

(a) An inspection lot shall be a consignment of units of the same size, type, and style which have been manufactured or processed under essentially the same conditions and not exceeding 80,000 pounds net weight.

(b) Unit containers for sampling shall be selected at random from the inspection lot at the following rate:

Number of containers in inspection lot=N	Minimum number of containers to be selected
1 to 4	Each container.
5 to 40	$4 + N - 10^2 / 10$.
41 or more	6 + one for each 4,000 pounds or fraction thereof in the lot.

² Raise fractions of 1/2 or more to next whole number; disregard negative fractions or fractions less than 1/2.

(c) A representative portion of the edible dry casein shall be taken from the sample unit by means of a sampling tube and placed in properly identified sample bag. When five or more containers are to be sampled, representative portions from not more than five containers may be commingled on a proportionate basis. Each sample bag, whether from a single container or a composite, should contain at least 500 grams.

(d) Preparation of the sample for analysis. All samples representing an inspection lot shall be composited just prior to analysis to form a sufficient sample for analysis. Results of the analysis of the composited sample will be reported for the inspection lot.