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Washington, Thursday, August 24, 1950.

## TITLE 3—THE PRESIDENT

### PROCLAMATION 2899

FIRE PREVENTION WEEK, 1950

BY THE PRESIDENT OF THE UNITED STATES  
OF AMERICA  
A PROCLAMATION

WHEREAS, in this critical period, it is imperative that our country keep itself strong in manpower, productive facilities, and material resources; and

WHEREAS preventable fires took a frightful toll last year, resulting in loss of life for some 10,000 of our fellow Americans and permanent disability for countless others; and

WHEREAS the destruction of materials and facilities by fire impairs the production of supplies essential to the defense of our country and to the physical welfare of our people; and

WHEREAS needless fires also destroy each year an untold amount of irreplaceable natural resources and of private and public property, including forests and farms, schools and churches, hospitals, homes, and factories:

NOW, THEREFORE, I, HARRY S. TRUMAN, President of the United States of America, do hereby designate the week beginning October 8, 1950, as Fire Prevention Week.

I suggest that, bearing in mind the present emergency, all of us rededicate ourselves to a year-round campaign against destructive fires in our homes, in our industrial plants, and in our communities generally. I request that State and local Governments, the American National Red Cross, the National Fire Waste Council, the Chamber of Commerce of the United States, business, labor, and farm organizations, churches, schools, civic groups, and the agencies of public information, including newspapers, magazines, and the radio, television, and motion-picture industries, cooperate fully in the observance of Fire Prevention Week. I also direct the appropriate agencies of the Federal Government to assist in this crusade against the toll of life and property resulting from fires.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

DONE at the City of Washington this 21st day of August in the year of our

Lord nineteen hundred and fifty,  
[SEAL] and of the Independence of the  
United States of America the  
one hundred and seventy-fifth.

HARRY S. TRUMAN

By the President:

DEAN ACHESON,  
*Secretary of State.*

[F. R. Doc. 50-7417; Filed, Aug. 23, 1950;  
10:51 a. m.]

## EXECUTIVE ORDER 10154

DESIGNATION OF CERTAIN OFFICERS OF THE  
POST OFFICE DEPARTMENT TO ACT AS  
POSTMASTER GENERAL

By virtue of the authority vested in me by section 179 of the Revised Statutes of the United States (5 U. S. C. 6), and as President of the United States, it is hereby ordered as follows:

In case of the death, resignation, absence, or sickness of both the Postmaster General and the Deputy Postmaster General the officer holding the position highest on the following list who is not absent or under disability to perform the duties of the office of Postmaster General shall perform the duties of that office:

1. Assistant Postmaster General in charge of the Bureau of Post Office Operations.
2. Assistant Postmaster General in charge of the Bureau of Transportation.
3. Assistant Postmaster General in charge of the Bureau of Finance.
4. Assistant Postmaster General in charge of the Bureau of Facilities.

HARRY S. TRUMAN

THE WHITE HOUSE,  
August 22, 1950.

[F. R. Doc. 50-7416; Filed, Aug. 23, 1950;  
10:32 a. m.]

## TITLE 7—AGRICULTURE

Chapter X—Administrator, Research  
and Marketing Act, Department  
of Agriculture

PART 1001—CONTRACT WORK

PAYMENTS AND BONDS

Section 1001.6 is amended to read as follows:

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§ 1001.6 *Payments and bonds.* Advance, progress or other payments may be made where in the judgment of the contracting officer such payments are necessary. However, in cases of advance or progress payments, the execution of an acceptable bond by the private organization will be required, in such amount as may be deemed necessary by the contracting officer to protect the interest of the Government, except where requirement for bond is waived by the Administrator or his designated representative. Bonds may be required in other cases where deemed necessary by the contracting officer to protect the interest of the Government.

(Sec. 7, 49 Stat. 438, sec. 205, 60 Stat. 1090; 7 U. S. C. 4271, 1624. Interprets or applies secs. 101, 205, 60 Stat. 1085, 1090; 7 U. S. C. 4271, 1624)

Done at Washington, D. C., this 18th day of August 1950.

[SEAL] CHARLES F. BRANNAN,  
Secretary of Agriculture.  
[P. R. Doc. 50-7358; Filed, Aug. 23, 1950; 8:46 a. m.]



**TITLE 16—COMMERCIAL PRACTICES**

**Chapter I—Federal Trade Commission**

[Docket 4879]

**PART 3—DIGEST OF CEASE AND DESIST ORDERS**

HARLICH MFG. CO. ET AL.

Subpart—Using or selling lottery devices: § 3.2475 Devices for lottery selling; § 3.2480 In merchandising. I. Selling or distributing in commerce, punch boards, push cards, or other lottery devices, which are to be used, or may be used, in the sale or distribution of merchandise to the public by means of a game of chance, gift enterprise, or lottery scheme; and, II, in connection with the offering for sale, sale or distribution in commerce, of cigarette chests or boxes, or other articles of merchandise, (1) supplying to or placing in the hands of others punch boards, push cards, or other lottery devices, either with assortments of cigarette chests or boxes or other merchandise, or separately, which said punch boards, push cards, or other lottery devices, are to be used, or may be used, in selling or distributing such cigarette chests or boxes or other merchandise to the public; (2) selling or distributing cigarette chests or boxes, or other articles of merchandise, so packed or assembled that sales thereof to the public are to be made or, due to the manner in which such merchandise is packed or assembled at the time it is sold by the respondents, may be made by means of a game of chance, gift enterprise, or lottery scheme; or, (3) selling or otherwise disposing of any merchandise by means of a game of chance, gift enterprise, or lottery scheme; prohibited.

(Sec. 6, 38 Stat. 722; 15 U. S. C. 46. Interpret or apply sec. 5, 38 Stat. 719, as amended; 15 U. S. C. 45) [Cease and desist order, Leo Lichtenstein et al., trading as Harlich Manufacturing Company, etc., Docket 4879, June 30, 1950]

*In the Matter of Leo Lichtenstein, Libbie Lichtenstein, and Byron J. Lichtenstein, Individually and Trading as Harlich Manufacturing Company, and Loomis Manufacturing Company*

This proceeding having been heard by the Federal Trade Commission upon the amended complaint of the Commission, the respondents' answer thereto, testimony and other evidence in support of and in opposition to the allegations of the amended complaint introduced before a trial examiner of the Commission theretofore duly designated by it, the trial examiner's recommended decision, and briefs and oral argument of counsel, and the Commission having made its findings as to the facts and its conclusion that the respondents have violated the provisions of the Federal Trade Commission Act:

*It is ordered*, That the respondents, Leo Lichtenstein, Libbie Lichtenstein, and Byron J. Lichtenstein, individually and trading as Harlich Manufacturing Company and as Loomis Manufacturing Company, or trading under any other name or trade designation, and said respondents' agents, representatives and employees, directly or through any cor-

porate or other device, do forthwith cease and desist from:

Selling or distributing in commerce, as "commerce" is defined in the Federal Trade Commission Act, punch boards, push cards, or other lottery devices, which are to be used, or may be used, in the sale or distribution of merchandise to the public by means of a game of chance, gift enterprise, or lottery scheme.

*It is further ordered*, That said respondents and their agents, representatives and employees, directly or through any corporate or other device, in connection with the offering for sale, sale or distribution in commerce, as "commerce" is defined in the Federal Trade Commission Act, of cigarette chests or boxes, or other articles of merchandise, do forthwith cease and desist from:

1. Supplying to or placing in the hands of others punch boards, push cards, or other lottery devices, either with assortments of cigarette chests or boxes or other merchandise, or separately, which said punch boards, push cards, or other lottery devices, are to be used, or may be used, in selling or distributing such cigarette chests or boxes or other merchandise to the public.

2. Selling or distributing cigarette chests or boxes, or other articles of merchandise, so packed or assembled that sales thereof to the public are to be made or, due to the manner in which such merchandise is packed or assembled at the time it is sold by the respondents, may be made by means of a game of chance, gift enterprise, or lottery scheme.

3. Selling or otherwise disposing of any merchandise by means of a game of chance, gift enterprise, or lottery scheme.

*It is further ordered*, That the respondents shall, within sixty (60) days after service upon them of this order, file with the Commission a report in writing, setting forth in detail the manner and form in which they have complied with this order.

By the Commission, Commissioner Mason concurring in the findings as to the facts and conclusion, but not concurring in the form of order to cease and desist, for the reasons stated in his opinion concurring in part and dissenting in part in Docket 5203—Worthmore Sales Company.

Issued: June 30, 1950.

[SEAL] D. C. DANIEL,  
Secretary.

[F. R. Doc. 50-7368; Filed, Aug. 23, 1950; 8:49 a. m.]

**TITLE 17—COMMODITY AND SECURITIES EXCHANGES**

**Chapter II—Securities and Exchange Commission**

**PART 240—GENERAL RULES AND REGULATIONS, SECURITIES EXCHANGE ACT OF 1934**

**EXEMPTION OF CERTAIN SECURITY TRANSACTIONS MADE BY INSIDERS**

The Securities and Exchange Commission, acting pursuant to authority vesting in it by the Securities Exchange Act of 1934, particularly sections 3 (a)

(12), 16 (c) and 23 (a) thereof, and deeming such action necessary and appropriate in the public interest and for the protection of investors and necessary to carry out the provisions of the act, hereby adopts the following rule:

§ 240.16c-3 *Exemption of sales of securities to be acquired*. Whenever any person is entitled, as an incident to his ownership of an issued security and without the payment of consideration, to receive another security "when issued" or "when distributed," the security to be acquired shall be exempt from the operation of section 16 (c): *Provided*, That:

(a) The sale is made subject to the same conditions as those attaching to the right of acquisition, and

(b) Such person exercises reasonable diligence to deliver such security to the purchaser promptly after his right of acquisition matures, and

(c) Such person reports the sale on the appropriate form for reporting transactions by persons subject to section 16 (a).

This section shall not be construed as exempting transactions involving both a sale of a security "when issued" or "when distributed" and a sale of the security by virtue of which the seller expects to receive the "when-issued" or "when-distributed" security, if the two transactions combined result in a sale of more units than the aggregate of those owned by the seller plus those to be received by him pursuant to his right of acquisition.

The Commission finds that the foregoing rule grants or recognizes an exemption and, therefore, may be made effective immediately upon publication. Accordingly, the rule shall be effective August 14, 1950.

(Sec. 23, 48 Stat. 901, as amended; 15 U. S. C. 78w, sec. 16, 48 Stat. 896, as amended; 15 U. S. C. 78p)

By the Commission.

[SEAL] ORVAL L. DUBOIS,  
Secretary.

AUGUST 11, 1950.

[F. R. Doc. 50-7357; Filed, Aug. 23, 1950; 8:46 a. m.]

**TITLE 21—FOOD AND DRUGS**

**Chapter I—Food and Drug Administration, Federal Security Agency**

**PART 1—ENFORCEMENT OF THE FEDERAL FOOD, DRUG, AND COSMETIC ACT**

**LABELING REQUIREMENTS OF CHEESES THE CURING OF WHICH HAS NOT BEEN COMPLETED**

By virtue of the authority vested in the Federal Security Administrator by the provisions of the Federal Food, Drug, and Cosmetic Act (sections 405, 701 (a), 52 Stat. 1049, 1055; 21 U. S. C. 345, 371 (a)) § 1.13 *Food*; exemptions from labeling is amended by adding the following new paragraph:

(f) The word "processed" shall include the holding of cheese in a suitable warehouse at a temperature of not less than 35° F. for the purpose of aging or curing to bring the cheese into compliance with requirements of an applicable



definition and standard of identity. The exemptions provided for in paragraph (b) of this section shall apply to cheese which is, in accordance with the practice of the trade, shipped to a warehouse for aging or curing, on condition that the cheese is identified in the manner set forth in one of the applicable following subparagraphs, and in such case paragraphs (c), (d), and (e) of this section shall also apply:

(1) In the case of varieties of cheeses for which definitions and standards of identity require a period of aging, whether or not they are made from pasteurized milk, each such cheese shall bear on the cheese a legible mark showing the date at which the preliminary manufacturing process has been completed and at which date curing commences, and to each cheese, on its wrapper or immediate container, shall be affixed a removable tag bearing the statement "Uncured \_\_\_\_\_ cheese for completion of curing and proper labeling," the blank being filled in with the applicable name of the variety of cheese. In the case of swiss cheese, the date at which the preliminary manufacturing process had been completed and at which date curing commences is the date on which the shaped curd is removed from immersion in saturated salt solution as provided in the definition and standard of identity for swiss cheese, and such cheese shall bear a removable tag reading, "To be cured and labeled as 'swiss cheese', but if eyes do not form to be labeled as 'swiss cheese for manufacturing.'"

(2) In the case of varieties of cheeses which when made from unpasteurized milk are required to be aged for not less than 60 days, each such cheese shall bear a legible mark on the cheese showing the date at which the preliminary manufacturing process has been completed and at which date curing commences, and to each such cheese or its wrapper or immediate container shall be affixed a removable tag reading, "\_\_\_\_\_ cheese made from unpasteurized milk. For completion of curing and proper labeling," the blank being filled in with the applicable name of the variety of cheese.

(3) In the case of cheddar cheese, washed curd cheese, colby cheese, granular cheese, and brick cheese made from unpasteurized milk, each such cheese shall bear a legible mark on the cheese showing the date at which the preliminary manufacturing process has been completed and at which date curing commences, and to each such cheese or its wrapper or immediate container shall be affixed a removable tag reading "\_\_\_\_\_ cheese made from unpasteurized milk. For completion of curing and proper labeling, or for labeling as \_\_\_\_\_ cheese for manufacturing," the blank being filled in with the applicable name of the variety of cheese.

Notice and public proceedings are not necessary in the promulgation of this order, and I so find, for the reasons that the manner of dealing with interstate shipments of cheese less than 60 days old for the purpose of aging or curing, and labeling of such cheese, were considered at the public hearing in the matter of

amending the definitions and standards of identity for certain cheeses and to establish definitions and standards of identity for other cheeses, processed cheeses, cheese foods, cheese spreads, and related foods, Docket No. FDC-46, and interested parties had an opportunity to and did express their views on these subjects in briefs, and exceptions to the proposed order in said matter.

This order shall become effective 30 days after publication in the FEDERAL REGISTER.

(Sec. 701, 52 Stat. 1055; 21 U. S. C. 371. Interprets or applies 405, 52 Stat. 1049; 21 U. S. C. 345)

Dated: August 16, 1950.

[SEAL] OSCAR R. EWING,  
Administrator.

[F. R. Doc. 50-7336; Filed, Aug. 23, 1950; 8:47 a. m.]

[Docket No. FDC-46]

PART 19—CHEESES; PROCESSED CHEESES; CHEESE FOODS; CHEESE SPREADS, AND RELATED FOODS: DEFINITIONS AND STANDARDS OF IDENTITY

FINAL ORDER

In the matter of amending the definitions and standards of identity for cheddar cheese, washed curd cheese, and colby cheese, and establishing definitions and standards of identity for other cheeses, processed cheeses, cheese foods, cheese spreads, and related foods:

By virtue of the authority vested in the Federal Security Administrator by the provisions of the Federal Food, Drug, and Cosmetic Act (sections 401, 701; 52 Stat. 1046, 1055; 21 U. S. C. 341, 371), and upon the basis of substantial evidence received at the hearing duly held pursuant to the notice published in the FEDERAL REGISTER on February 21, 1947 (12 F. R. 1192), and upon consideration of the exceptions filed to the tentative order which was issued by the Federal Security Administrator on April 15, 1949 (14 F. R. 1960), which exceptions are allowed in part and rejected in part, as appears from notations on the exceptions which are on file with the Hearing Clerk, Federal Security Agency, Room 5109, Federal Security Building, Fourth Street and Independence Avenue SW., Washington 25, D. C., and as is apparent from the detailed findings made below, the following order is promulgated:

*Findings of fact.*<sup>1</sup> 1. Definitions and standards of identity have heretofore been adopted for a number of varieties of cheese. There are in addition to these a large number of other varieties sold in the United States. Some varieties of cheese manufactured in the United States are also made in other parts of the world and imported into the United States. There are a few varieties of cheese obtained only by importation. Many varieties of cheese now manufactured in the United States originated in foreign countries and the methods of manufacture after introduction here were modified to suit domestic conditions.

<sup>1</sup>The citations following each finding of fact refer to the pages of the transcript of the testimony and the exhibits received in evidence at the hearing.

A particular variety of cheese, whether of domestic or foreign manufacture, is generally sold under the same designation. In many instances these designations are the names of the geographic areas where the variety of cheese originated. The significance of the geographic designation differs, and it may be that in some instances such significance has not been completely lost. (R. 322, 557, 709, 1365, 1475, 1499, 2994, 3411, 3414-3415, 3995, 3999-4000, 4258-4264, 4305, 4550, 4598, 5005, 5062, 5255, 5258, 5264, 5315; Ex. 25, 26, 94; 21 CFR, Part 19)

2. Many varieties of cheese are well known and widely distributed and used. Others have limited distribution and are known to relatively small numbers of consumers. It is impracticable to adopt a definition and standard of identity for every known variety of cheese, but it is practicable to adopt definitions and standards of identity for important varieties and to adopt class standards which will include most of the varieties for which no specific standards are adopted. (R. 322, 699-701, 719-720, 1292-1296, 1423, 2994, 4258; Ex. 26, 75B 94)

3. The basis for classifying cheeses differs according to the purpose of the classification. A reasonable and practical method of classifying cheeses for standardization purposes which is informative to consumers is one based on differences in the consistency of the finished cheese. Under such a classification there are five main classes:

- a. Hard grating cheese.
- b. Hard cheese.
- c. Semisoft cheese.
- d. Soft uncured cheese.
- e. Soft cured cheese.

(R. 719-720, 1292-1296, 1315-1428, 2983, 2987, 2989, 3395, 3514-3515, 3517-3518, 3966)

4. Cheeses in each class may be made from whole milk or partly skimmed milk. Generally speaking, hard grating cheeses are made from partly skimmed milk, while cheeses in the other classes are generally made from whole milk. However, there are a number of varieties of cheese in the semisoft class which have been made from partly skimmed milk for many years. It is impracticable to adopt separate standards for all these, but it is reasonable to subdivide the semisoft cheeses into two classes, semisoft cheeses and semisoft part-skim cheeses. (R. 731, 1316, 1366, 1375-1376, 1460, 2917, 2973, 3421, 3529, 3901-3902, 3966-3967, 4134, 4155; Ex. 95)

5. There are a number of varieties of cheese which are rendered distinctive by spices added to them rather than by their consistency. Some varieties of spiced cheeses are made from whole milk, and other well-known varieties are made from partly skimmed milk. It is impracticable to adopt separate standards for all varieties of spiced cheeses, but it is reasonable to subdivide spiced cheeses into two classes, spiced cheeses and part-skim spiced cheeses. (R. 1087, 1094-1096, 1130-1131, 1139-1140, 1162, 1169-1170, 1683, 1687, 1705-1706, 3832, 4904-4905, 5014-5015, 5247, 5281)

6. In addition to foods that may be accurately classified as cheeses, there are



a number of foods made largely from cheese whey that do not belong to any of the classes named in finding 3, although their names indicate that they are some kind of cheese. These foods may be classed as whey cheeses and are discussed in other findings. (R. 5243, 5249-5250, 5254, 5256, 5277, 5312, 5319)

7. In each class there are a number of varieties of cheese having different names. It is impracticable from the evidence of record to adopt definitions and standards of identity for each of these cheeses. It will be of advantage to consumers to adopt definitions and standards of identity for the more important varieties, leaving the varieties of lesser importance subject to regulation by the provisions of the definitions and standards of identity for the class. (R. 311, 1018-1019, 1102, 1111, 1292-1294, 1310-1311, 1322, 1374-1376, 3428-3429, 4512; Ex. 26)

8. If a variety of cheese which falls into one of the classes for which standards are adopted has a common or usual name that has become generally recognized, it is proper to use such name in addition to the class name in designating that variety of cheese. As new cheeses are developed which fall into the class standards there will be no common name generally recognized for such cheeses, and in such case a brand or fanciful name may be used (in addition to the class name) if it is not false or misleading. In order to insure that the purchaser will know that the cheese is a member of a class for which there is a standard, the class name should immediately precede or follow the brand or fanciful name. (R. 731, 1111, 1133-1134, 1322-1323, 1374, 1459, 1638, 3414, 3428-3429, 3440, 5006)

9. Definitions and standards of identity have heretofore been adopted for all the most important varieties of soft uncured cheeses, and no class standard is needed at the present time. (21 CFR 19.515-19.530)

10. The basic constituents of all varieties of cheese, except the so-called whey cheeses, are the coagulated proteins of milk, with more or less milk fat and water. The water holds in solution some of the soluble constituents present in milk, particularly milk sugar and mineral matter. In making most varieties a curd is prepared, drained, salted, and shaped. Usually the curd is aged or cured; some varieties are further treated to impart to the cheese the characteristics of the particular variety. The animal origin of the milk, its fat and moisture content, variations in the methods of preparing the curd, and the different treatments to which the curd is subjected are some of the factors which result in different physical and chemical properties in the cheese and give rise to the large number of varieties of cheese known to consumers. (R. 147, 1060, 1112, 1114, 1296-1297, 1366, 2915, 3283, 3370, 3395, 3583, 3924, 3961, 3963, 3981, 3983, 5351-5352; Ex. 26)

11. Basically, the starting point for all varieties of cheese is milk. Most varieties are made from cow's milk, but some are made from sheep's milk, some from goat's milk, and some from a mixture of one or both of these milks with cow's milk. The animal origin of the milk has some effect on the characteristics of the

cheese, and when sheep's milk or goat's milk is used alone or in combination with cow's milk consumers are interested and should be informed of this fact. (R. 1320, 1324, 1552, 1611, 1661-1662, 1702, 2913, 2970, 2974, 3369-3370, 3583, 3961, 3963, 3981, 3983, 4015, 5063, 5334; Ex. 26)

12. In preparing milk for use in cheese making, it is customary to adjust the milk so that the ratio of milk fat to the nonfat milk solids will be at a desired and predetermined level. Such adjustment may be made by adding or removing part of the milk fat in the form of cream or by adding fresh skim milk. A few varieties of cheese are made from milk from which practically all the fat has been separated. In areas of the United States where no fresh skim milk is readily available, milk is adjusted for cheese making by adding nonfat dry milk solids and water, or concentrated skim milk and water. Milk so adjusted is suitable for cheese making, except that it is not suitable for making swiss cheese, swiss cheese for manufacturing, and gruyere cheese. (R. 329, 393, 448-450, 549, 612, 858-859, 881-882, 2658-2660, 2882-2883, 2887, 2896, 3102, 3507, 4345-4346, 5054; Ex. 64, 65, 67)

13. In preparing milk for cheese making, a process known as "clarification" is sometimes used. In the process the milk is centrifuged for the primary purpose of removing small particles naturally present in the milk and which might later have an adverse effect on the cheese. Clarification is widely used in preparing milk for making swiss cheese. Clarified milk is also suitable for making other cheeses. (R. 439-440, 447-448, 674-675, 952-953, 955)

14. In the manufacture of all types of cheese for which standards are now being considered, it is the general custom to bring about a coagulation of the casein of the milk with an enzyme known as rennin, which is obtained from the stomach of the calf. Commercially prepared preparations of this enzyme are commonly known as rennet. In the manufacture of a few varieties of cheese coagulation of the casein is accomplished by the use of rennet paste or an extract of rennet paste. Rennet paste is the ground stomach of a calf or kid. Extract of rennet paste is the water extract of either such material. In addition to the enzymes that coagulate the milk, commercial rennet and rennet paste also contain other enzymes which aid in curing some types of cheese. At times some milk is deficient in calcium content. This condition retards its coagulation with rennet. The addition of small amounts of calcium chloride often aids coagulation in such instances. If, through the use of calcium chloride, the amount of rennet is substantially reduced the curing of some types of cheeses may be retarded. In manufacturing cheeses from milk which is deficient in calcium, the advantages gained from using calcium chloride outweigh the possibility of undesirable results from reduced amounts of rennet. It is reasonable to require that when calcium chloride is used it be purified, and that no more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of the milk be used. (R. 216, 225, 228, 332-333, 374-375, 742-743, 756,

1352, 1408, 1721-1723, 1746-1747, 1753, 1757, 3068-3071, 3759-3760, 4106, 4992, 5299; Ex. 14, 26)

15. One of the factors which serves, in part, to differentiate one variety of cheese from another is the moisture content of the cheese. The moisture comes from the water content of the milk, or adjusted milk, used, and sometimes from the water used in treating the curd. The amount of water in the finished cheese can be regulated to a great extent by the method of manufacture. Often a cheese otherwise similar to a normal cheese of a given variety is produced with excessive moisture. This excess moisture is worthless and as a makeweight tends to defraud the consumer. Wherever reasonably possible it is in the interest of the consumer to set a maximum limit on the moisture content of each variety or class of cheese. (R. 719, 1059-1060, 1114, 1293-1294, 1313, 1344, 1463, 1485, 1509)

16. Among the factors which determine the fat content of a cheese are the fat content of the milk used, the method of manufacture, and the moisture content of the cheese. It has become the custom to measure the fat content of most cheeses in terms of the percent of fat in the solids of the cheese. This is usually an accurate index of the fat content of the milk used. In the United States most cheeses are made from what is generally referred to as whole milk to distinguish it from skimmed milk or partly skimmed milk. The term "whole milk cheese" has come to mean in the United States a cheese of not less than 50 percent milk fat in the dry matter of the cheese. In other countries the milk used for cheese making is in general of the same composition as milk used in the United States, but it is customary in many countries to remove some cream before making cheese, and in some European countries a cheese is considered to have been made from whole milk if it contains not less than 45 percent of milk fat in the dry matter. Certain varieties of cheese have long been made only from skimmed milk or partly skimmed milk, and in adopting standards for such cheeses it is customary to prescribe a minimum of less than 50 percent fat in the dry matter. The actual minimum limit varies, depending on the variety. (R. 709, 828, 1028-1029, 1296-1297, 1317, 1333, 1344, 1428, 1460, 1485, 1493-1494, 1497, 1699, 3402, 3409, 3507, 3525, 4345-4346, 4374, 5004-5005, 5054, 5247, 5303-5304; Ex. 242)

17. The properties and characteristics which differentiate one variety of cheese from another are often difficult to define and measure objectively. They result from variations in raw materials and in methods of preparation. By prescribing the raw materials to be used and the method of manufacture which produces cheese of the variety desired, together with limits for the fat and moisture content of the finished cheese, a practicable and reasonable definition and standard of identity can be formulated. The critical points in the method of manufacture should be sufficiently definite for an experienced cheese maker to follow and, under normal conditions, to obtain a cheese of the variety defined. Variations from the prescribed method of manufac-



ture should be permitted provided the physical and chemical properties of the finished cheese are the same as when the prescribed method of manufacture is used. (R. 27, 34-35, 144, 149, 562-563, 669-670, 692, 758, 850, 855, 1025, 1462, 1428, 1456-1457, 1497, 3395-3398, 3517, 3520; Ex. 26)

18. The characteristics of a particular variety of cheese depend to a great extent on the method of manufacture and conditions of curing and the length of curing time. Certain enzymes present in the milk or in the coagulating agent or developed by microorganisms during manufacture contribute to the development of flavor and texture. In addition, enzymes from other animal or plant sources may be useful. The use of such enzymes may facilitate and accelerate the curing and flavor development of some varieties of cheese and reduce the cost of manufacture. Although added enzymes are now known to be used only in a few varieties of cheese, they may prove to be useful in other varieties, and there appears to be no reason to refuse to permit the use of harmless enzymes in the manufacture of all types of cheese. It is impracticable at the present time to name the individual enzymes that may be useful. It is reasonable to permit harmless enzymes of animal or plant origin. The amount of enzymes that may be used should be limited, and it is reasonable to require that the solids content of the enzymes preparation should not exceed 0.1 percent of the weight of the milk used. (R. 211, 218, 225, 227-228, 235, 240, 242, 246A, 564, 743-744, 756, 759, 1070, 1308, 1352, 1353, 1408, 1720, 1737, 3071-3072, 3395-3398, 3761, 4106)

19. Milk obtained from infected animals may and often does contain microorganisms capable of causing disease in humans. At present it is practically impossible to insure the use in cheese making of milk free from such microorganisms. Milk may also become contaminated with pathogenic microorganisms from persons handling it. Pasteurization of the milk destroys such microorganisms. Milk is pasteurized if it is held at a temperature of 143° F. for not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. Sufficiently high temperatures to destroy pathogenic microorganisms are not reached in cheese manufacturing, and any present in the milk are usually carried over into the cheese. Such cheese may transmit infections to consumers. Investigations in recent years have disclosed that cheese freshly made from unpasteurized milk was the source of infection in several outbreaks of disease. No outbreak has been reported from cheese held 60 days or more. (R. 171-172, 178, 180, 190, 196, 1312, 1349, 1408, 2035, 2111, 2116, 3352-3353; Ex. 51, 52, 53, 54, 55, 56)

20. Viable pathogenic microorganisms in cheese, even when present to such an extent as to be capable of causing disease in humans, tend to die when the cheese is held for some time at temperatures above 35° F. It is not known with certainty how long cheeses must be held before they become safe. Under certain conditions pathogenic organisms remain

viable in cheese for several months, although they may not be present in sufficient numbers or be of such virulence as to cause disease. It would be unreasonable under the present state of knowledge to require that all cheeses be held for a period necessary to give absolute assurance that all pathogenic organisms would expire. If cheese made from unpasteurized milk is held for 60 days after its manufacture at temperatures of 35° F. or above, it is reasonable to expect that the cheese will be safe for human consumption. When cheese is made from pasteurized milk no holding period is considered necessary to insure its safety with respect to organisms derived from the milk. However, a holding period may be necessary to develop identity characteristics which result from curing the cheese. (R. 141, 143-146, 165, 180-181, 270-271, 275, 281-282, 292, 317, 372, 690, 1073-1074, 1103-1104, 1203, 1213, 1308-1309, 1408, 1409, 1413-1414, 1424, 2991, 3065, 3415-3416, 4550, 4991, 5023; Ex. 51, 52, 53, 54, 55, 56)

21. Consumers expect, and have a right to expect, that manufacturers of cheese shall take reasonable precautions to render the finished cheese safe for human consumption. Under present conditions reasonable caution on the part of manufacturers of cheese intended for human consumption without further processing requires that the milk used be pasteurized, or in the alternative that such cheese, after manufacturing, be held for a period whereby it can be reasonably expected that it will be safe for human consumption. It will promote honesty and fair dealing in the interest of consumers to include in the definitions and standards of identity of the different varieties and classes of cheese requirements that the milk used be pasteurized or that the cheese be held for a period whereby it may be reasonably expected that the cheese will be rendered safe. Based on the best evidence available now, it is reasonable to require that when the milk used in manufacturing cheese is not pasteurized the cheese be held after it is manufactured for not less than 60 days at temperatures of not less than 35° F. (R. 140-146, 159, 165-166, 180, 198, 270-271, 275, 1038, 1072A, 1167, 3521, 3415)

22. Milk contains an enzyme known as phosphatase which is destroyed when the milk is sufficiently heated. The extent of the destruction of phosphatase depends on the time and temperature of heating. When milk is pasteurized the destruction of phosphatase is practically complete. Cheeses made from properly pasteurized milk contain practically no phosphatase. Chemical tests for determining the amount of phosphatase in milk and in products made from milk have been devised. The method most suitable for testing for the presence of phosphatase in different classes and varieties of cheese is that devised by Sanders and Sager, and is as follows:

**I. Reagents—1. Buffers:** a. *Barium borate-hydroxide buffer.* Dissolve 25.0 gm. of C. P. barium hydroxide ( $\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$ , fresh, not deteriorated) in distilled water and dilute to 500 ml. Dissolve, in another flask or cylinder, 11.0 gm. of C. P. boric acid ( $\text{H}_3\text{BO}_3$ ) and dilute to 500 ml. Warm each to 50° C. (122° F.), mix the two together, stir,

cool to approximately 20° C. (68° F.), filter, and stopper the filtrate tightly (pH approximately 10.6). The buffer prepared thus is designated as the 25-11 buffer, the figures indicating the grams per liter of each of the respective reagents.

b. *Color-development buffer.* Dissolve 6.0 gm. of sodium metaborate ( $\text{NaBO}_2$ ) and 20 gm. of sodium chloride in water and dilute to a liter with water (pH 9.8).

c. *Color-dilution buffer.* Dilute 100 ml. of color-development buffer 1-b to a liter with water.

d. *Standard borax buffer, 0.01-molar, for checking pH meter, pH 9.18 at 25° C.* Dissolve 0.9544 gm. of pure borax (Bureau of Standards Sample 187) in distilled water (distilled recently or freshly boiled and cooled) and dilute to 250 ml. Keep stoppered tightly.

2. *Buffer substrates:* Specify phenol-free crystalline disodium phenyl phosphate.

a. *For evaluating pasteurization.* Dissolve 0.10 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

b. *For quantitative results with raw-milk cheese.* Dissolve 0.20 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

3. *Protein precipitants:* a. *Zinc-copper precipitant for unripened cheese.* Dissolve 6.0 gm. of zinc sulfate ( $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$ ) and 0.1 gm. of copper sulfate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ) in water and dilute to 100 ml. with water. The precipitant prepared thus is designated as the 6.0-0.1 precipitant.

b. *Zinc precipitant for ripened cheese.* Dissolve 6.0 gm. of zinc sulfate in water and dilute to 100 ml. with water. This precipitant is designated as the 6.0 precipitant.

4. *BQC (2,6-dibromoquinone-chloroimine solution) (Gibbs' reagent):* Dissolve 40 mg. of BQC powder in 10 ml. of absolute methyl alcohol and transfer to a dark-colored dropper bottle. This reagent remains stable for at least a month if kept in the ice tray of a refrigerator. Do not use it after it begins to turn brown.

5. *Other reagents:* a. *Copper sulfate, 0.05 percent, for standards.* Dissolve 0.05 gm. of copper sulfate in water and dilute to 100 ml.

b. *Butyl alcohol.* Specify *n*-butyl alcohol, boiling point 116°-118° C. To adjust the pH, mix 50 ml. of the color-development buffer 1-b with a liter of the butyl alcohol.

6. *Phenol standards:* a. *Stock solution.* Weigh accurately 1.0 gm. of pure phenol, transfer to a liter volumetric flask, dilute to a liter with water, and mix. One ml. contains 1 mg. (0.001 gm.) of phenol. Use this stock solution to prepare standard solutions. It is stable for several months in the refrigerator.

b. *Preparation of standards.* Dilute 10.0 ml. of the stock solution 6-a to a liter with water, and mix. One ml. contains 10 micrograms (0.00001 gm., 10 gammas, or 10 units) of phenol. Use this standard solution to prepare more dilute standard solutions; e. g., dilute 5, 10, 30, and 50 ml. to 100 ml. with water to prepare standard solutions containing 0.5, 1.0, 3.0, and 5.0 gammas or units of phenol per milliliter, respectively. Keep standard solutions in the refrigerator.

In a similar manner, prepare from the stock solution such more concentrated standard solutions as may be needed, containing, for example, 20, 30, and 40 units per milliliter.

Measure appropriate quantities of the phenol standard solution into a series of tubes (preferably graduated at 5.0 and 10.0 ml.) to provide a suitable range of standards as needed, containing 0 (control, blank), 0.5, 1.0, 3.0, 5.0, 10.0, etc., to 30 or 40 units. To increase the brightness of the blue color and improve the stability of the standards,

<sup>1</sup> All pH values reported herein were determined at 25° C. or corrected to that temperature.



add 1.0 ml. of 0.05 percent copper sulfate solution 5-a to each.

Add 5.0 ml. of color dilution buffer 1-c and add water to bring the volume to 10.0 ml. Add 4 drops (0.08 ml.) of BQC 4, mix, and allow to develop for 30 minutes at room temperature. If the butyl alcohol extraction method is to be used in the test, extract the standards as described under III Conducting the Test.

Read the color intensities with a photometer, subtract the value of the blank from the value of each phenol standard, and prepare a standard curve (straight line). When the standards are to be used for visual comparisons, they should be stored in a refrigerator.

II. Sampling—1. *Hard cheese*: Take a sample from the interior with a clean Roquefort trier, place in a small tube, stopper the tube, and keep it in a refrigerator.

2. *Soft and semisoft ripened cheese*: Harden the cheese by chilling it in the freezing chamber of a refrigerator. Taking special precautions to avoid contaminating the sample with phosphatase that may be present on the surface, use either of the following methods for sampling:

a. Cut a portion from the end of the loaf or from the side of the cheese, extending in at least 2 inches if possible or to a point somewhat beyond the center in the case of a small cheese. Cut a slit  $\frac{1}{4}$  to  $\frac{1}{2}$  inch deep at least halfway around the portion and midway between the top and bottom. Break the portion into two parts, pulling it apart so that it breaks on a line with the slit, being careful not to contaminate the freshly exposed, broken surface. Remove the sample from the freshly exposed surface at or near the center of the cheese.

b. Remove the surface of the area to be sampled—e. g., the end and the adjacent sides—with a clean knife or spatula, to a depth of  $\frac{1}{4}$  inch. Clean the instrument and hands with hot water and phenol-free soap and wipe them dry. Remove the freshly exposed surface to a similar or greater depth, and repeat the cleaning. Then take the sample from the center of the freshly exposed area, preferably at or near the center of the cheese in the case of a small cheese.

3. *Process cheese, spreads, etc.*: Take the sample from beneath the surface with a clean knife or spatula.

Avoid the use of samples contaminated with mold.

4. *Preservation*: If a preservation is necessary, put 1 to 3 ml. of chloroform in the container, cover with a plug of cotton, insert sample and stopper container tightly. Label preserved samples, "Poison—Preservative added."

III. *Conducting the test*. 1. Weigh, on a clean balance pan or watch glass, a 0.50-gm. sample (preferably two samples in duplicate) and place in a culture tube 16 or 18 x 150 mm. Similarly, weigh another sample and place in a tube as a control or blank. If the cheese is sticky, weigh the sample on a piece of wax paper about 1 x 1 inch and insert the paper with the sample into the tube. Macerate the blank and the test with a glass rod about 8 x 180 mm.

2. Add to the blank 1.0 ml. of the appropriate (table 1) barium buffer 1-a (without substrate added), macerate with the rod, leave the rod in the tube, heat for about a minute to at least 85° C. (185° F.) in a beaker of boiling water with the beaker covered so that the entire tube becomes heated to approximately 85° C., cool to room temperature, and macerate again with the rod.

3. Add to the test 1.0 ml. of the appropriate (table 1) barium buffer substrate 2-a or 2-b, and macerate.

From this point, treat the blank and the test in a similar manner.

Add 9.0 ml. of the appropriate barium buffer substrate 2-a or 2-b (total, 10.0 ml. added), and mix. The rod may be left in the tube during incubation; or, if removing it at this point, cut a piece of filter paper ap-

proximately 1 x 1 inch, wrap and hold it tightly around the rod, rotate the rod while withdrawing it from within the tube so as to wipe the rod clean, insert the paper with the adhering fat into the tube, and stopper the tube.

4. Incubate in a water bath at 37°-38° C. (99°-100° F.) for 1 hour, mixing or shaking the contents occasionally.

5. Place in a beaker of boiling water for nearly a minute, heating to 85° C. (185° F.), and cool to room temperature.

6. Pipet in 1.0 ml. of the zinc precipitant 3-b for ripened cheese, or the zinc-copper precipitant 3-a for unripened cheese, and mix thoroughly (pH of mixture, 9.0-9.1).

7. Filter (5-cm. funnel, 9-cm. Whatman No. 42 or No. 2 paper recommended), and collect 5.0 ml. of filtrate in a tube, preferably graduated at 5.0 and 10.0 ml.

8. Add 5.0 ml. of color-development buffer 1-b (pH of mixture, 9.3-9.4).

9. Add 4 drops<sup>2</sup> of BQC 4, mix, and allow the color to develop for 30 minutes at room temperature.

10. Determine the amount of blue color by either of two methods:

a. *With a photometer*. Read the color intensity of the blank and that of the test, subtract the reading of the blank from that of the test, and convert the result into phenol equivalents by reference to the standard curve described under "Phenol standards." The butyl alcohol extraction method is ordinarily unnecessary when using a photometer.

b. *With visual standards*. For quantitative results in borderline instances, e. g., tests yielding 0.5 to 5 units of color, extract with butyl alcohol 5-b. Add 5.0 ml. of the alcohol and invert the tube slowly several times. Centrifuge if necessary to increase the clearness of the alcohol layer. Compare the blue color with the colors of standards in the alcohol.

With samples yielding more than 5 units, compare the colors in aqueous tests with those of aqueous standards.

11. *Dilution method for quantitative results*: In tests that are observed during color development to be strongly positive, e. g., 20 units or more, in which four drops of BQC may be much less than sufficient to combine with all of the phenol, pipet an appropriate proportion of the contents into another tube, make up to 10.0 ml. with color-dilution buffer 1-c, and add two drops more of BQC in the case of unripened cheese or four drops in the case of ripened cheese. With each test, dilute and treat the blank in the corresponding manner. Dilute each strongly positive test thus until the final color is within the range of the standards or photometer. Allow 30 minutes for color development after the last addition of BQC, and make the reading at the end of the 30-minute period. Multiply, for example, by 2 for a 5+5 dilution, 10 for a 1+9 dilution, and 50 for a 1+9 followed by a 2+8 dilution.

Alternatively, to reduce the amount of yellow off color, add two instead of four drops of BQC after each dilution, and allow the color to develop. Then test the completeness of color development by adding a third drop; repeat the dilution procedure until the addition of an extra drop does not cause any further increase in the amount of blue color.

12. *Calculation and evaluation of results*: When using 0.5 gm. of sample and adding a total of 11.0 ml. of liquid, multiply the value of the reading by 1.1 to convert it to units of color or phenol equivalents per 0.25 gm. of cheese. The result may, if desired, be converted to phenol equivalents per 1 gm. by multiplying by 4.4.

IV. *Photometric determination*. To read the color in aqueous solution, use a filter with

<sup>2</sup>For merely detecting underpasteurization, in testing unripened cheese, two drops is sufficient, provided the visual standards are prepared likewise with two drops.

maximum light transmission in the region of 610  $m\mu$  wave length.

To read the color in butyl alcohol, extract the color as described above. If necessary, centrifuge the sample for 5 minutes to break the emulsion and to remove the moisture suspended in the alcohol layer. A Babcock centrifuge can be adapted for this purpose by making special tube holders as follows: Slice a section  $\frac{1}{4}$ -inch thick from a rubber stopper of suitable diameter to fit in the bottom of the centrifuge cup. Glue together two cork stoppers of appropriate diameter, bore through the center a hole of proper size to hold the tube snugly, and insert the double-cork section into the cup. After centrifuging, remove nearly all of the butyl alcohol by means of a pipet with a rubber bulb on the top end. Filter the alcohol into the photometer cell and read with a filter with maximum light transmission in the region of 650  $m\mu$  wave length.

If more than approximately 4 ml. of butyl alcohol is required for the photometer used, conduct the test in a larger tube and extract the color, in both the test and the standards, with the necessary quantity of butyl alcohol rather than with 5 ml. specified above.

V. *Precautions*. The length of time that the crystalline disodium phenyl phosphate and the BQC powder will remain stable can be increased greatly by keeping them in the freezing chamber of a refrigerator, and by keeping them dry.

The glassware, stoppers, and sampling tools should be scrupulously clean and it is desirable to soak them in hot, running water after cleaning.

The solid barium hydroxide and the barium buffer must be kept stoppered tightly to prevent absorption of carbon dioxide.

Phenolic contamination from plastic closures on reagent bottles has been encountered, and therefore the use of plastic closures should be avoided. Rubber stoppers should not be used in flasks in which butyl alcohol is stored. Glass or cork stoppers should be used.

VI. *Modifications for different cheeses*. Different kinds of cheese and cheeses of different ages have different buffering capacities, and therefore some of them require modification of concentrations of the reagents. The modifications of the barium buffer needed to produce optimal pH conditions during incubation (9.85-10.20), and of the precipitant to yield uniformly clear filtrates and to minimize interference during color development under optimal pH conditions (9.3-9.4), are specified in table 1.

With some samples, especially those of unknown history, slight deviations from the optimal pH range may occur, but such deviations do not very materially affect the results. For example, pH values as low as 9.6 or as high as 10.35 during incubation have been found to result in an average decrease of not more than 20 percent below the maximum in the quantity of phenol liberated. The use of the 25-11 buffer substrate with samples for which the 27-11 buffer substrate is specified yields pH values not lower than 9.8.

In testing cheese of unknown history or age, information as to the percentage of solids, especially the nonfat solids, is useful as an indication of the correct buffer to use; cheese with a relatively high percentage of nonfat solids generally requires the use of a relatively concentrated buffer to adjust the pH of the mixture correctly.

For precise quantitative results on unknown samples, adjust the pH to 10.0-10.05 for the incubation.

Cottage cheese curd is heated in the presence of considerable acid during manufacture, and therefore its phosphatase values are comparatively low. Alternatively, to increase the sensitivity of the test on cottage cheese, apply the following modifications: Use a 1.0-gm. sample, 27-11 buffer substrate, 2-hour incubation, and 6.0-0.1 precipitant.



TABLE 1—PHOSPHATASE TEST MODIFICATIONS FOR DIFFERENT KINDS OF CHEESE AND CHEESE OF DIFFERENT AGES

Kind of cheese	Age or extent of curing; other details	Buffer for optimal pH (9.85-10.25)	Precipitant
Cheddar, granular, stirred curd, hard cheese	1 week	1 25-11	2 6.0-0.1
	1 week-one and one-half months	25-11	6.0
	1½-4 months	26-11	6.0
	4 months	27-11	6.0
Washed curd, soaked curd, colby	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
	2 months	26-11	6.0
Swiss, gruyere	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
Brick, muenster	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-2 months	25-11	6.0
Edam, gouda	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
	2-4 months	26-11	6.0
	4 months	27-11	6.0
Blue mold, blue	1 week	25-11	6.0-0.1
	1 week-1 month	26-11	6.0
	1-4½ months	27-11	6.0
	4½ months	28-11	6.0
Camembert, limburger	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-2 months	26-11	6.0
Monterey	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
	2 months	26-11	6.0
High-moisture jack	1 week	25-11	6.0-0.1
	1 week-2½ months	25-11	6.0
	2½ months	26-11	6.0
Provolone, pasta filata	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
Parmesan, reggiano, monte, modena, romano, asiago old	1 week	25-11	6.0-0.1
	1 week-2 months	26-11	6.0
	2-6 months	27-11	6.0
	6 months-1 year	28-11	6.0
Asiago fresh	Same as cheddar		
Asiago medium	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
Gorgonzola	Same as blue		
Cottage, cook cheese, koch kaese	Dry	25-11	6.0-0.1
	Moist	25-11 (8+2)	4.5-0.1
Cream cheese		25-11 (7+3)	4.5-0.1
	Semisoft cheese	25-11	6.0-0.1
Soft ripened cheese	1 week	25-11	6.0
	1 week-1 month	25-11	6.0
	1 month	26-11	6.0
Nokkelost, kuminost, sage cheese	1 week	25-11	6.0-0.1
	1 week-1½ months	25-11	6.0
	1½-4 months	26-11	6.0
	4 months	27-11	6.0
Pasteurized process, pasteurized process pinleno, pasteurized process with fruits, meats, etc.	(Soft, mild)	25-11	6.0
	(Medium, firm)	25-11	6.0
	(Firm, sharp (including swiss, gruyere))	27-11	6.0
Pasteurized process cheese foods; pasteurized process cheese foods with fruits, meats, etc.	Same as pasteurized process		
	(Soft, high moisture, including cream spreads)	25-11	6.0
	(Less soft, including blue)	26-11	6.0
Pasteurized process cheese spreads; pasteurized process cheese spreads with fruits, meats, etc.	(Mild to medium flavored, soft)	26-11	6.0
	(Sharp, firm)	27-11	6.0
Cold-pack, club; cold-pack cheese foods; cold pack cheese foods with fruits, meats, etc.		26-11	6.0
		27-11	6.0

1 Grams Ba(OH)<sub>2</sub>·8H<sub>2</sub>O and H<sub>2</sub>BO<sub>3</sub> per liter, respectively.

2 Grams ZnSO<sub>4</sub>·7H<sub>2</sub>O and CuSO<sub>4</sub>·5H<sub>2</sub>O per 100 ml., respectively.

3 Grams ZnSO<sub>4</sub>·7H<sub>2</sub>O per 100 ml.

4 8 parts of 25-11 buffer plus 2 parts of water.

(R. 62-71; Ex. 10, 11, 12, 13, 58, 59, 60, 62, 252)

23. When cheese is examined by the method described in finding 22 and the phosphatase found is more than the amount equivalent to 3 micrograms of phenol per 0.25-gm. portion of cheese it can be definitely concluded, except with some ripened cheeses, that the heat treatment of the milk used was not sufficient for proper pasteurization. Some varieties of cheese are subjected to curing agents which produce phosphatase. In such cases it is necessary to make provision for distinguishing between the phosphatase derived from unpasteurized milk and the phosphatase produced by the curing agents. This is accomplished in most cases by the method of taking and preparing the sample of cheese to be tested, as described in the method out-

lined in finding 22. In some varieties of cheese the extent of the development of phosphatase during curing has not been established, and the standards for such cheeses do not provide for the use of the phosphatase test. (R. 95-111, 127, 129, 131-132, 133, 945, 1237, 2175-2207; Ex. 10, 11, 12, 13)

24. The amount of moisture and the amount of milk fat in each variety of cheese for which standards are now being considered can be accurately determined by the methods of analysis for cheese described in the publication entitled "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 6th edition, 1945. The method for the determination of moisture content appears under the heading "Moisture—Official," page 336, section 22.124, and the method for the

determination of milk-fat content under the heading "Fat—Official," page 337, section 22.130. Such methods are accurate and widely used and are recognized by food chemists as reliable. The publication referred to is well known and readily available to food chemists. (R. 563, 1408)

25. Proposals were made concerning the enrichment of cheeses by the addition of vitamin A, thiamine, riboflavin, and niacin. In the manufacture of cheese some of the water-soluble vitamins present in milk are carried off in the whey. Thiamine, riboflavin, and niacin are such water-soluble vitamins. It was proposed that standards be established for enriched cheese, to which a sufficient amount of these vitamins would be added to give the finished cheese approximately the same amount of these vitamins as the milk from which it was made. The annual per capita consumption of cheese in the United States is relatively small. The evidence does not establish that those whose diets are deficient in the above vitamins consume cheese regularly or in such quantities that the consumption of enriched cheese would constitute any material contribution toward the correction of dietary deficiencies. The public generally is not informed as to the specific functions of the various vitamins. Advertising and labeling claims for a food which stress the presence of particular vitamins, even though such claims are literally true, may readily cause the public to attach an exaggerated importance to such food, and would be likely to confuse and mislead consumers. It would not promote honesty and fair dealing in the interest of consumers to establish a separate definition and standard of identity for enriched cheese of any of the varieties or classes for which standards are already in existence or which are now being considered. (R. 808-814, 1807, 3621-3628, 3635, 5430-5431, 5453, 5479, 5481, 5487, 5535, 5538; Ex. 82, 246, 247)

26. Based on other findings, it is concluded that it will promote honesty and fair dealing in the interest of consumers to amend the definitions and standards of identity for cheddar cheese (§ 19.500), washed curd cheese (§ 19.505), and colby cheese (§ 19.510), to include provisions that the procedures now specified for their preparation may be varied, provided that the chemical and physical properties of the finished cheeses are the same as when the methods now prescribed in these standards are used, and to further amend to provide for the use of calcium chloride under the conditions described in finding 14 and to provide for the optional use of enzymes as described in finding 18. It will also promote honesty and fair dealing in the interest of the consumer to require that where these cheeses are not made from pasteurized milk they be held for not less than 60 days at a temperature of not less than 35° F. and to provide for the use of the phosphatase test, under the conditions described in finding 22, as a means of determining when these cheeses have not been made from pasteurized milk.

27. A type of cheese known as granular cheese or stirred curd cheese is manufactured in substantial quantities in the



United States. This cheese is similar in many respects to cheddar cheese and to colby cheese, but differs in some ways from each. The method of manufacturing granular cheese is essentially the same as that of cheddar cheese through the time that the coagulated mass is cut, stirred, and heated. After this, in the case of granular cheese, a part of the whey is drained off and the curd is alternately stirred and drained to prevent matting and to remove the whey from the curd. The curd is then salted, drained, and pressed into forms. Granular cheese differs from colby cheese in that the curd is not cooled by adding water. The moisture content of granular cheese is not more than 39 percent, and its solids contain not less than 50 percent of milk fat. (R. 54-58, 339-341, 355, 369-370)

28. A considerable proportion of the cheddar, washed curd, colby, granular, swiss, and brick cheeses made in the United States are used for manufacturing into pasteurized process cheeses, pasteurized process cheese foods, and other foods in which the method of manufacture employed results in the application of heat to such cheeses for a time and at a temperature sufficient for the destruction of any pathogenic microorganisms which may be present in the original cheese ingredients used. To require that cheeses for manufacturing be made from pasteurized milk or be held 60 days before shipment is unnecessary to insure safety of the foods into which they are manufactured. It was proposed that all cheeses for manufacturing be coated with green-colored paraffin, to distinguish them from cheeses of the same variety suitable for all purposes for which such cheeses are used. Until experience shows that such a covering is needed, in addition to proper labeling, to identify cheeses for manufacturing, it appears unnecessary to require that they be coated with a green-colored paraffin or similar coating. (R. 270, 379, 402-403, 943-944, 1166-1168)

29. Cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, and brick cheese for manufacturing comply with requirements for cheeses of those names, but are made from unpasteurized milk and are not cured for 60 days. (See finding 28.)

30. A variety of cheese commonly known as swiss cheese is manufactured in large quantities in the United States and in many foreign countries. In Switzerland where this variety of cheese originated, and where it is now extensively made, it is known as "emmentaler" cheese, and that designation has been used extensively in the United States. The name emmentaler cheese is a synonym for swiss cheese. This variety of cheese is characterized by holes, which are called "eyes," that develop throughout the body of the cheese during the curing. (R. 458, 532, 535-536, 541, 610, 681, 2139, 3372, 4129, 4262, 4274, 4508, 4589, 4976, 5050; Ex. 14)

31. Swiss cheese is made from cow's milk from which a small amount of cream usually is removed, and the fat content of the solids usually ranges from

43 to 47 percent. The moisture content of swiss cheese ranges from 39 to 43 percent and is usually not more than 41 percent. It is reasonable to require that the minimum fat content of the solids of swiss cheese be not less than 43 percent, and that the maximum moisture content be not more than 41 percent. (R. 342-343, 360-365, 459, 462, 465, 468, 475-476, 479, 486-531, 572, 575, 595-596, 598-599, 609, 612, 620-621, 631, 711, 750, 754, 831-832, 839, 857-858, 874-875, 881-883, 916-917, 920, 926, 2731, 5029; Ex. 14, 16, 17)

32. Wherever swiss cheese is made, the basic manufacturing process is essentially the same. A few variations in procedure have been noted, some of which are designed to take advantage of labor-saving devices. The basic procedure is as follows: Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The acidity of the whey at this point, calculated as lactic acid, does not exceed 0.13 percent. The curd is transferred to hoops or forms and pressed until the desired shape and firmness are obtained. The pressed curd is then salted by immersing it in a saturated salt solution for about 3 days. It is then held at a temperature of about 50° F. to 60° F. for a period of 5 to 10 days, after which it is held at a temperature of about 75° F. until it is approximately 30 days old or until the so-called eyes form. Salt, or a solution of salt in water, is added to the surface of the cheese at some time during the curing process. The cheese is then stored at a lower temperature for further curing. (R. 439-453, 537, 611-612, 623, 667-668, 670-671, 674-675, 849, 852, 855-856, 863, 868, 887-889, 951-955, 4275-4278, 4301-4303, 4312-4315, 4977-4981; Ex. 14)

33. Swiss cheese is generally cured for not less than 6 to 8 weeks and more often for as long as 10 or 12 weeks. It is reasonable to require that swiss cheese be held under proper curing conditions for not less than 60 days. Such a holding period will bring about sufficient curing; and it can be reasonably expected that the cheese will be safe for consumption. (R. 672, 681, 682, 693, 863)

34. At times the so-called eyes do not form in swiss cheese, and the resulting cheese is known as blind swiss. Such a cheese, if cured for 60 days, will have the flavor of swiss cheese, and it is suitable for manufacturing purposes but not for distribution for consumer consumption. The adoption of a definition and standard of identity for swiss cheese for manufacturing which requires that such cheese conform to the definition and standard of identity for swiss cheese,

except that the eyes have not formed, will reasonably assure use of blind swiss for manufacturing purposes only. Since the lack of eyes will effectively distinguish swiss cheese for manufacturing from swiss cheese, no special colored coating is necessary for swiss cheese for manufacturing. (R. 613, 625, 629, 751-752, 859-861, 906)

35. The process of curing swiss cheese is best effected in warehouses having facilities for regulating the temperature and humidity. Many small swiss-cheese factories do not have such facilities and ordinarily ship partly cured swiss cheeses to especially equipped warehouses, for completion of the process. Often, interstate shipments of such partly cured swiss cheeses are made. Other varieties of cheese are often shipped from one State to another before curing is completed. Regulations under section 405, clause (2), of the Federal Food, Drug, and Cosmetic Act regulate such traffic. (R. 537, 903-904, 906; finding 31)

36. A type of cheese known as gruyere cheese is manufactured extensively in Switzerland and in France. It is not known to be made in the United States at the present time. Gruyere cheese is similar to swiss cheese, but there are some differences in flavor and texture. Gruyere cheese is characterized by a flavor resembling that of a very mild limburger cheese. This flavor comes from the growth of curing agents on the surface of the cheese. Gruyere cheese has a smoother and more buttery texture than swiss cheese and the eyes that develop are not as large as those that develop in swiss cheese. Gruyere cheese is used to some extent in Switzerland as a natural cheese, and it is widely used as an ingredient, together with swiss cheese, for making a process cheese commonly known as process gruyere cheese. The fat content of the solids of gruyere cheese is not less than 45 percent, and its moisture content does not exceed 39 percent. It is cured for not less than 90 days. (R. 536, 549, 552-557, 632, 683-685, 698, 2150, 2153-2154, 2275, 4263, 4277-4279, 4289, 4301, 4315, 4341-4342, 4360, 4372-4373; Ex. 45A)

37. Gruyere cheese is made from whole milk or partly skimmed milk. The usual method of manufacture is as follows: Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The curd is transferred to hoops or forms and pressed until the desired shape and firmness are obtained. The pressed curd is surface-salted while held at a temperature of 43° to 54° F. for a few days. It is soaked



for 1 day in a saturated salt solution. It is then held for 3 weeks in a salting cellar and wiped every 2 days with "brine cloth" to insure growth of biological curing agents on the rind. It is then removed to a heating room and held at progressively higher temperatures, finally reaching 65° F., with a relative humidity of 85 to 90 percent, for several weeks, during which time small holes or so-called eyes form. The cheese is then stored at a lower temperature for further curing. (R. 549, 554, 558-560, 4263, 4274-4277, 4304-4305, 4315)

38. Brick cheese is the common or usual name of a type of cheese manufactured and sold in considerable quantities in the United States. It has a characteristic flavor somewhat similar to that of limburger cheese, but less pronounced. The flavor is due to the action of surface-curing organisms and the intensity of the flavor depends on the length of time the cheese is held under conditions favorable to the growth of these organisms. (R. 942-943, 948, 970, 1007-1008)

39. Brick cheese is manufactured from whole milk. The usual procedure for manufacturing it is as follows: Milk, which may be pasteurized or clarified or both, is brought to about 88° F. and subjected to the action of one or more harmless lactic-acid-producing bacteria present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately  $\frac{3}{8}$  inch long and stirred and heated so that the temperature slowly rises to about 96° F. The stirring is continued until the curd is sufficiently firm. Part of the whey is then removed and the mixture diluted with water or salt brine to control the acidity. The curd is transferred to forms and drained. During drainage, it is pressed and turned. After drainage the curd is salted and the biological curing agents characteristic of brick cheese applied to the surface. The cheese is then cured to develop the characteristics of brick cheese. (R. 289, 306, 307, 931-937, 942, 945-946, 971, 1004-1006, 1008, 1010-1011, 1014-1015, 1057; Ex. 14)

40. Brick cheese is usually made in rectangular or loaf form and of such size that each cheese weighs between 4 and 6 pounds. Recent developments in the making of this cheese, however, have led to its successful manufacture in smaller units, and there is no reason to restrict brick cheese to specific sizes or shapes. (R. 936A; Ex. 14)

41. Due to the growth of surface-curing organisms, the phosphatase test to determine whether the milk used has been pasteurized must be applied to a portion of the cheese taken from beneath the surface and so as not to include any surface portion. It is reasonable to specify 5 micrograms instead of 3 as the limiting phenol equivalent in the case of brick cheese. (R. 942, 945, 1008)

42. The moisture content and the fat content of the solids of brick cheese are important factors in maintaining its identity. A reasonable maximum limit

on moisture is 44 percent, and a reasonable limit on the percent of milk fat in its solids is 50 percent. (R. 937-938, 941, 948, 1058; Ex. 14)

43. Muenster cheese is the common or usual name of a type of cheese made from whole milk and sold in substantial quantities in the United States. This type of cheese is made by the same procedure as that used for brick cheese, but it is not treated so as to promote the growth on the surface of organisms which aid in the curing process and development of flavor. The surface of the cheese may be rubbed with vegetable oil. Muenster cheese is normally handled quickly after manufacture, and for this reason it is impracticable to store it 60 days to render it safe against the presence of pathogenic microorganisms. Most muenster cheese now made in the United States is made from pasteurized milk, and it is reasonable to require that muenster cheese be made from pasteurized milk. (R. 289, 306-307, 970, 3045-3046, 3051-3053, 3056, 3058, 3060; Ex. 14)

44. Muenster cheese is usually made in cylindrical forms weighing between 4 and 6 pounds. It is not necessary, however, to restrict this cheese solely to such size and shape. The moisture content of muenster cheese and the fat content of the solids are important factors in maintaining its identity. A reasonable maximum limit on moisture is 46 percent, and a reasonable minimum limit on the fat content of the solids is 50 percent. (R. 902, 1024, 2911, 3044, 3047, 3050)

45. A variety of cheese commonly known as edam cheese is manufactured in considerable quantities in the United States, and is also imported in substantial quantities from the Netherlands, where it originated, and from other countries. In some foreign countries this cheese is known by other names in addition to the name "edam." The common name of this variety of cheese in the United States is edam cheese, and to recognize other names as synonyms might lead to confusion. (R. 1397, 1500, 2912, 4130, 4890-4891, 4989, 4993-4995, 5030; Ex. 22)

46. Edam cheese is made in the United States from cow's milk from which a portion of the cream has been removed, and the minimum fat content of its solids is about 40 percent. The fat content of edam cheese made in foreign countries varies somewhat but is usually more than 40 percent of the solids. The moisture content of edam cheese varies to some extent in various countries. In the United States this cheese has not more than 45 percent moisture, and it is reasonable to require that edam cheese contain not more than 45 percent moisture. Edam cheese has for many years been coated with a red-colored paraffin or similar red coating. The red coating has come to be a characterizing factor used by consumers in selecting this type of cheese. It is made in ball or loaf shape. (R. 701, 1077-1080, 1092, 1098, 1101, 1118, 1129, 2612, 3003, 4897, 5283; Ex. 22)

47. The method by which edam cheese is manufactured is basically the same in whatever country made. The procedure is as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless

lactic-acid-producing bacteria present in such milk or added thereto. Harmless artificial coloring may be added. Purified calcium chloride may be added in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Sufficient rennet is added to set the milk to a semisolid mass. After coagulation, the mass is divided into smaller portions ( $\frac{3}{8}$ -inch cubes). The mass is stirred and heated to about 90° F. and so handled by stirring, heating, dilution with water or salt brine, and salting, as to promote and regulate the separation of whey and curd. When the desired curd is produced it is transferred to forms permitting drainage of the whey. During drainage the curd may be pressed and turned. After drainage the curd is removed from the forms and is usually salted, although salt may be applied at any time in the making or curing process. It is then cured under suitable conditions until ready for marketing. Curing for not less than 60 days is a reasonable precautionary measure for edam cheese made from raw milk. (R. 289, 306-307, 1081-1083, 1086-1087, 1090, 1103-1105, 1121-1122, 1127, 3520, 4894, 4898, 4912)

48. Gouda cheese, like edam cheese, originated in the Netherlands, and is now also made in other countries, considerable quantities being produced in the United States. Gouda cheese is similar to edam cheese in that the ingredients used in its manufacture, and the manufacturing procedure are the same, and when made from raw milk it should be aged not less than 60 days. Its fat content is higher than that of edam cheese, being not less than 46 percent of the dry matter. Its moisture content is not more than 45 percent. Gouda cheese is made in modified ellipsoidal shape, having two opposite flat sides, and in this respect differs from edam cheese. Gouda cheese is at times coated with yellow or red paraffin, but this is not an identifying characteristic as in the case of edam cheese. Gouda cheese is known in some parts of the world by other names, but its common name in the United States is gouda cheese, and the use of other names might be confusing. (R. 701, 1077-1080, 1086-1087, 1098, 1117-1120, 2913, 4900-4901, 5029; Ex. 23)

49. Limburger cheese is the common and usual name of a variety of semisoft cheese of characteristic aroma and taste. Limburger cheese was first made in Europe but now is manufactured in large quantities in the United States, particularly in Wisconsin. It is made from whole milk. This may be raw or pasteurized. When made from raw milk the usual procedure is as follows: Milk is brought to about 92° F. and subjected to the action of one or more types of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Sufficient rennet is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately  $\frac{1}{2}$ -inch long. After a few minutes the mass is stirred and heated, gradually raising the temperature to 96° F. to 98° F. The



curd is then allowed to settle, most of the whey is drawn off, and the remaining curd and whey dipped into molds. During drainage the curd may be pressed. It is turned at regular intervals. After drainage is completed, the curd is cut into pieces of desired size and dry-salted at intervals for 24 to 48 hours. The cheese is then cured with frequent applications of a weak brine solution to the surface until the proper growth of surface-curing organisms is obtained. It is then wrapped and held in storage for development of as much additional flavor as is desired. When made from pasteurized milk slight changes are made in the procedure, as follows: The milk is adjusted to 89° F. to 90° F. after pasteurization and a culture of harmless lactic-acid-producing bacteria added. Calcium chloride may be added as to raw milk. The procedure then is the same as with raw milk, except that heating is to 94° F. and brine at a temperature of 66° F. to 70° F. is added so that the pH of the curd will be 4.8. The mixed curd, whey, and brine is dipped into molds and the same procedure followed as when raw milk is used. (R. 958-962, 972-977, 1009, 1014-1015, 1069; Ex. 14, 26)

50. The characteristic aroma and flavor of limburger cheese are due to the action of surface-curing organisms. The intensity of flavor depends on the extent to which surface curing has developed. It is possible to cure limburger cheese for 60 days and have a strong-flavored though still desirable cheese. Curing for not less than 60 days is a reasonable precautionary measure where limburger cheese is made from raw milk. (R. 289, 295, 973, 980-981, 985-986, 993, 995-996, 1009-1012)

51. Due to the extensive development of surface-curing organisms on some limburger cheese, there is production of phosphatase which may penetrate the cheese to such an extent that the phosphatase test may not be a reliable method for determining whether limburger cheese is made from pasteurized milk. (R. 104, 111, 128-130, 135, 1016-1017)

52. The moisture content and the fat content of the solids of limburger cheese are important factors in maintaining its identity. A reasonable maximum limit on moisture is 50 percent, and a reasonable minimum limit on the percent of milk fat in the solids is 50 percent. (R. 963-967, 980, 989, 1019; Ex. 21)

53. There are a number of different varieties of cheese made in the United States and in other countries of the world that are characterized by the growth throughout the cheese of blue or bluish-green molds of the penicillium group. Such cheeses are of the class generally known as blue-mold cheese. These cheeses may be made from the milk of cows, goats, or sheep. All such cheeses have a distinctive appearance, odor, and flavor. The growth of the mold throughout the cheese imparts the principal distinguishing characteristics to the cheeses in this class. The usual penicillium molds in such cheeses are *Penicillium roqueforti* and *Penicillium glaucum*. Most of the distinguishing

flavor of this class of cheese results from enzymatic action on the fat of the cheese. (R. 1552-1556, 1560-1561, 1617, 1653-1654, 1658-1659, 1663, 1672, 1702, 1714, 1736, 1758, 1768, 1773, 1792, 2913-2914, 3368, 3400-3402, 3415, 3438-3439, 3527, 4660, 4709; Ex. 26, 138-152, 160-165)

54. The best known of the blue-mold cheeses is that made from sheep's milk in France and known as roquefort cheese, being named after a village near which are natural caves in which the cheese is cured. Other varieties of blue-mold cheese are made in foreign countries from cow's milk. Some of these varieties have common names in the country of origin but all are sold in the United States under the name of blue-mold cheese, except in the case of gorgonzola cheese. A blue-mold cheese made in France from cow's milk in accordance with French law is known as fromage bleu. This variety of cheese has been imported into the United States and sold under the name of blue cheese. (R. 1552-1553, 1560-1561, 1611, 1629, 1702, 1731, 1758, 1773, 2913-2914, 3253, 3266-3269, 3402, 3449, 3517, 3526, 3712, 4711, 4725, 4733, 4999, 5037, 5040-5041, 5044-5045, 5202; Ex. 80, 85, 86, 153, 155-157, 159, 164)

55. The principal variety of blue-mold cheese made in the United States is prepared from cow's milk and is known as blue cheese. At times it was called American roquefort cheese and roquefort-type cheese. Another important variety made from cow's milk, manufactured in the United States and imported from Italy and other countries, is known as gorgonzola cheese. Gorgonzola cheese differs from blue cheese in that it has a lower moisture content, is made in larger sizes, and is characterized by the growth of the mold known as *Penicillium glaucum* rather than the mold *Penicillium roqueforti*. Gorgonzola cheese may be made from cow's milk or goat's milk or mixtures of these. It is made in loaves weighing between 14 and 17 pounds, and is cured for not less than 90 days. (R. 1552-1553, 1560-1561, 1614, 1661, 1714, 1716, 1773, 1782, 1785, 1793, 3517, 3534, 3551-3552, 3556-3557, 3970, 4059-4062, 4660, 4710, 5175; Ex. 84, 88-93, 130-137, 199-214, 233-239)

56. The basic procedure for manufacturing blue-mold cheese is as follows: Cow's milk or sheep's milk, which may be pasteurized, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Sufficient rennet is added to set the milk to a semisolid mass. Small amounts of calcium chloride may be added. Harmless artificial coloring may be added. The mass is cut into small portions and held in the whey for a time, then the mixed curd and whey is removed and placed in forms and further drained. At some time during preparation of the curd mold spores of *Penicillium roqueforti* or *Penicillium glaucum* are thoroughly mixed into it. The curd is salted by dipping in brine or dry-salting or both. The shaped curd is perforated in many places to facilitate the growth of mold, and is held at a temperature and humidity which favor the growth of the mold throughout the cheese. A temperature near 50° F. and

a humidity of about 95 percent are commonly used. The curing is continued to develop flavor. In no case is it held less than 60 days. Due to the length of curing time it can reasonably be expected that blue-mold cheeses are safe for consumption when made from raw milk. (R. 1582, 1585-1586, 1624, 1650-1656, 1720, 1760, 1768-1773, 1780, 1782, 1786, 3254, 3268, 3273, 3281, 3459-3460, 3677-3684, 4999, 5046; Ex. 69)

57. When a blue-mold cheese is made from cow's milk in spring and summer, the carotene content of the milk, which is usually relatively higher than at other times, is carried over to the cheese and tends to give the curd a yellowish color. It is generally considered by dealers that blue-mold cheese with a white curd is of better appearance than a blue-mold cheese with a yellowish curd, and many consumers prefer blue-mold cheeses that have a white curd. In some European countries chlorophyll, a green color of plant origin, is added to the milk in small amounts for the purpose of obscuring the yellow color of the carotene. Chlorophyll is harmless and has no adverse effect on the nutritional properties of the cheese, and such use is not objectionable. In the United States some manufacturers have adopted the practice of separating the cream from the milk and treating the cream with benzoyl peroxide, an oxidizing agent, which is used in bleaching flour. The amount of benzoyl peroxide used does not exceed 0.002 percent by weight of the milk. As normally sold for bleaching flour, benzoyl peroxide is mixed with harmless carriers, magnesium carbonate, potassium alum, and calcium sulfate. The weight of which may be six times the weight of benzoyl peroxide. Oxygen released from the benzoyl peroxide oxidizes the carotene in the cream to colorless compounds. The bleached cream and skim milk are recombined and used in preparing blue-mold cheese. (R. 1582-1584, 1626-1628, 1719-1720, 1737-1738, 1757-1759, 1761-1764, 1789-1790, 3537-3540, 3600-3601, 3605, 3607-3609, 3611, 3669-3671, 4997, 4999, 5002, 5043)

58. Carotene is a precursor of vitamin A and is responsible for about one-half of the vitamin A potency of milk and of the cheese made therefrom. To the extent that the carotene is destroyed by oxidation in bleaching with benzoyl peroxide, the nutritional quality of cheese made with milk so bleached is lowered. The vitamin A potency can be restored to the cheese by the addition of colorless vitamin A from other sources. This is not now done, but a requirement that the vitamin A potency of blue-mold cheese made from bleached milk be restored by the addition of vitamin A would impose no unreasonable difficulty on cheese makers and would promote honesty and fair dealing in the interest of consumers of blue-mold cheese. Sheep's milk is naturally white and no color nor bleach is used in such milk when it is manufactured into a blue-mold cheese. (R. 1626, 1742-1743, 1758, 1763, 1765, 3612-3615)

59. Blue cheese contains not less than 50 percent fat in the solids and not more than 45 percent moisture. Gorgonzola



cheese contains not less than 50 percent fat in the solids and not more than 42 percent moisture. (R. 1578-1579, 1718, 1756, 1774-1776, 1786, 5038, 5062)

60. For many years a variety of blue-mold cheese made of sheep's milk has been cured in natural caves in the area of Roquefort, France, and has been shipped extensively to all parts of the world. Such cheese has long been known as roquefort cheese. The use of sheep's milk is the most important factor that imparts the distinctive characteristics to this variety of blue-mold cheese. Storage in the caves is only for the purpose of obtaining proper temperature, humidity, and ventilation. A blue-mold cheese made in a similar manner of sheep's milk, which is cured elsewhere than in the caves near Roquefort, under properly controlled curing conditions, would undoubtedly result in a cheese indistinguishable from the blue-mold cheese made near Roquefort. No finding is made as to whether the name roquefort cheese has acquired and retains a secondary meaning so that its use should be restricted to designate the blue-mold cheese cured in the area of Roquefort. Accurate descriptive names for such cheeses are sheep's milk blue-mold cheese and blue-mold cheese from sheep's milk. This variety of cheese contains not less than 50 percent fat in the dry matter, and its moisture content is not more than 45 percent. It is cured for not less than 60 days. (R. 3336, 3370, 3398, 3406, 3445, 3447-3449, 3461-3462, 3467-3468, 3472, 3501-3502, 3568, 3582-3583, 3675-3676, 3686-3695, 3714-3716, 4708, 4858, 4862-4863; Ex. 71, 80, 166, 167, 169, 170, 171, 173, 174, 176, 185, 186)

61. Camembert cheese is a type of soft cured cheese made from cow's milk, which is characterized by the growth of a typical white mold on the surface. This type of cheese originated in France, and in the years before the second world war substantial amounts were shipped to the United States. In France a cheese known as *carre de l'est* is quite similar to camembert cheese, but is made by a process which differs in some respects from the traditional process for making camembert. In the United States a cheese has been made for many years by a process almost identical with that used in France for making *carre de l'est* and sold under the name of camembert cheese. The cheese known as camembert in France may be cured longer than camembert made in the United States. The former is characterized by the growth of surface microorganisms in addition to the white mold. These are in part yeasts which give the surface of the cheese a pink color. Camembert and similar cheeses are now made in many countries, but at present practically all cheese sold as camembert in the United States is of domestic manufacture. Under favorable conditions, cheese manufacturers in France and other foreign countries may wish to ship camembert cheese to the United States. (R. 316, 1184-1187, 1189-1193, 1196-1197, 1207, 1220-1227, 1229, 1233-1235, 3287, 3375-3378, 3381-3383, 3386-3388, 3394, 3422-3423, 3471, 3474, 3509, 3695; Ex. 72, 75)

62. In France a small amount of cream is removed from the milk to be used for making camembert cheese or *carre de l'est*, and the fat content in the solids is usually between 45 and 50 percent. In the United States camembert is made from whole milk, and the fat in the solids is not less than 50 percent. (R. 1189, 1193, 1396-1397, 1422, 3384-3388, 3421)

63. Camembert cheese is quite perishable, and when held for 60 days may not be acceptable to consumers. In France camembert cheese is usually made from raw milk and was so made in the United States until a few years ago. In recent years, due to regulations of some States requiring that cheese be made from pasteurized milk or aged for not less than 60 days, camembert cheese in the United States is now made from pasteurized milk. The manufacture of camembert cheese in France from pasteurized milk has not been thoroughly tried. There are some points of difference in the manufacturing procedure, depending on whether raw or pasteurized milk is used. (R. 282-283, 383, 1190-1192, 1202, 1233-1234, 3386-3387, 3417)

64. The differences in the finished products between camembert cheese and *carre de l'est*, as made in France, are not extensively treated in the record. *Carre de l'est* was said to be softer than camembert and to sell at a lower price. Insofar as consumers in the United States are concerned at the present time, there is no need for specific standards to distinguish between these cheeses and the camembert cheese made in the United States. Sufficient protection to consumers for the present will be afforded by the class standard for soft cured cheese. (R. 3386-3388, 3394, 3474, 3480, 3510-3512)

65. Monterey cheese is the common or usual name of a variety of semisoft cheese that originated in Monterey County, California, and is now made in a few areas of the United States, principally in California and adjoining States. It is made by the granular or stirred-curd process, similar to that described in finding 27. Monterey cheese differs from granular cheese, however, in that it has a higher moisture content and the body of the cheese is not as firm. It is uncolored and is molded under pressure into characteristic forms and shapes of less than 12 pounds in weight. Monterey cheese for table use is made from whole milk, and has not less than 50 percent fat in the solids. The moisture content does not exceed 44 percent. Some monterey cheese is made from partly skimmed milk, and is dried for grating purposes. Such cheese made for grating will be covered by the definition and standard of identity for the class known as grating cheese, and no separate standard is needed for it. (R. 1247-1253, 1265, 1269-1271, 1273-1274, 1277-1279, 1281, 2764, 2770, 2771; Ex. 25)

66. The method commonly used for manufacturing monterey cheese is as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk

or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Sufficient rennet is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and regulate the separation of whey and curd. Part of the whey is drained off, and water or salt brine may be added. The curd is then placed in muslin or sheeting cloths and formed into a ball, and pressed. It may be placed in a cheese hoop and pressed. The cloths are removed the following day, and the cheese is placed on trucks or racks and turned frequently to prevent checking and to form a rind. The cheese may then be paraffined, or it may be dipped in vegetable oil and sprinkled with rice flour. (R. 1247-1248, 1284, 1286, 2765; Ex. 25)

67. Monterey cheese is usually made from pasteurized milk, and after its manufacture it is ordinarily sold as a fresh cheese. It is rarely held for more than 30 days, and if held for as long as 60 days it develops a flavor that would render it unacceptable to consumers. Since this cheese cannot, under normal conditions, be held for as long as 60 days, it is reasonable to require that it be made from pasteurized milk. (R. 1249, 1271-1272, 1284, 2767-2768; Ex. 25)

68. High-moisture jack cheese is a variety of semisoft cheese made by the same method from pasteurized milk as monterey cheese, and has similar physical and chemical properties, except that the moisture content is more than 44 percent, but less than 50 percent. (R. 1249-1250, 1273, 1290-1291; Ex. 25)

69. There are several varieties of cheese, now made in the United States by procedures which originated in Italy, that are commonly known by their Italian names. One of these varieties is provolone cheese, also known as pasta filata cheese. This variety of cheese has a stringy curd texture, and it is made in a number of different shapes and sizes which are customarily designated by words of Italian origin. The common size and shape designations used in this country are *provoletti*, *provoloncini*, *provolontini*, *salamini*, *salami*, *bocchini*, *mandarini*, *orancini*, *caciacavallo*, *monteche*, *scamorze*, *gravanese*. Some shapes are encased in rope or twine before drying. (R. 3756-3757, 3758, 3780, 3783-3785, 3790)

70. The procedure for manufacturing provolone cheese is similar to that of cheddar cheese until the curd is matted and cut. In making provolone cheese, after the curd is matted and cut it is immersed in hot water and kneaded and stretched until it is smooth and free from lumps. This treatment results in a curd of stringy appearance which is characteristic of provolone cheese. The curd is then cut and molded into shapes of varying sizes. During this molding the curd is kept sufficiently warm so that it sticks together and forms a smooth surface. The molded curd is then firmed by immersing in cold water. The units are salted in brine, are often encased in twine, and are dried. Provolone cheese is usually smoked by the smoke from



burning hardwood. Consumers expect it to be smoked, and should be informed when it is not smoked. The cheese is coated with paraffin or other similar wax and cured for varying lengths of time. (R. 3758, 3763, 3798-3799, 3824, 3951)

71. Provolone cheese may be made from either raw milk or pasteurized milk. Rennet paste or an extract of rennet paste is ordinarily used to coagulate the milk. However, rennet has been found to be satisfactory for this purpose when used together with certain enzymes. (R. 701, 3760-3762, 3765, 3845, 3900)

72. In the manufacture of provolone cheese considerable fat is lost in the whey, and some is also lost in the manipulation and handling of the curd. Provolone cheese contains not less than 45 percent milk fat in the solids, and the moisture content is not more than 45 percent. (R. 3758, 3793)

73. Some manufacturers of provolone cheese expressed a desire to bleach the milk from which it is made, using the method described in finding 57. Purchasers of provolone cheese have not been accustomed to purchasing such cheese having a uniformly white curd. No reasons for consumer preference for a white cheese are disclosed by the evidence nor does there appear in the evidence any basis for a finding that bleaching the milk used in making provolone cheese would promote honesty and fair dealing in the interest of consumers. (R. 3762, 3793, 3898)

74. A variety of cheese somewhat similar to provolone cheese is made in the United States and sold under the name *caciocavallo siciliano*. This variety of cheese has a somewhat lower fat content than provolone, and also has a lower moisture content. It is cured for not less than 90 days, and is not smoked. It contains not more than 40 percent moisture, and its solids contain not less than 42 percent milk fat. The method of manufacture is similar to that for provolone, except that the curd is soaked in hot whey, this whey is withdrawn, and the curd is allowed to mat, then it is cut into blocks and again treated with hot whey to obtain a certain amount of elasticity. The curd is then drained, pressed into oblong forms, dried, and salted with brine. This variety of cheese is sometimes made from sheep's milk or goat's milk or mixtures of two or all of these. When so made it is in the interest of consumers to have the label of the cheese show this fact. (R. 3773-3778, 3803-3804, 5208-5209, 5212, 5324)

75. A variety of hard cheese which originated in Italy is now manufactured in the United States, and is known as *parmesan* cheese or *reggiano* cheese. Whatever differences that may have existed between cheeses of these two names have disappeared. This variety of cheese has a hard and brittle rind, a granular texture, and a mellow and somewhat nutty flavor; it grates readily. It is made from cow's milk, from which part of the cream has been removed. The procedure for the manufacture of *parmesan* cheese is as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless

lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Harmless artificial coloring may be added. Rennet is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut into pieces no larger than wheat kernels, heated, and stirred until the temperature reaches between 115° F. to 125° F. The curd is allowed to settle, and is then removed from the kettle or vat, drained for a short time, placed in hoops, and pressed. The pressed curd is removed and salted in brine or dry-salted. The cheese is cured in a cool, ventilated room. The rind of the cheese may be coated or colored. (R. 702, 3901-3904, 3723, 3728, 3739, 3757-3758, 3972, 3978, 5344-5345)

76. In order to obtain a cheese having the characteristics associated with *parmesan* cheese, it is necessary to cure the cheese for a long period of time. It is cured generally for at least 14 months and often for as long as two years. Testimony was introduced concerning a method of manufacturing *parmesan* cheese whereby the curing period could be reduced to 5 or 6 months. In this method the cream separated from the milk is homogenized and then recombined with the skim milk. An enzyme preparation containing a lipase is also added during the manufacturing process. Cheeses that have not been cured for 14 months do not have all the characteristics associated with *parmesan* cheese. It would not promote honesty and fair dealing in the interest of consumers to permit hard grating cheese cured for less than 14 months to be included in the definition and standard of identity for *parmesan* cheese. Such a cheese should be given a new name. It would then come under the class standard for hard grating cheese. (R. 3718-3722, 3905-3906, 3919, 3939-3940, 4120-4121)

77. *Parmesan* cheese sold in the United States is principally of domestic and Italian manufacture. Italian regulation requires that *parmesan* cheese contain not less than 32 percent milk fat in the solids. The record does not show the range of fat content of such imported cheese. Some *parmesan* cheese manufactured in this country has an average fat content of 36 or 37 percent, but the range of the fat content was not shown. It is reasonable to require that *parmesan* cheese contain not less than 32 percent of milk fat in the solids. During the curing period the moisture content of the cheese is reduced, and the cheese when 14 months old contains not more than 32 percent of moisture. (R. 3724, 3902, 3926, 3940, 3954-3956, 3958-3960)

78. *Romano* cheese is the common or usual name of another variety of hard cheese which originated in Italy. In the past considerable quantities have been shipped from Italy to the United States. In recent years this type of cheese has also been manufactured in the United States. In Italy cheeses of this variety are also known by other names. Such names are usually descriptive of the lo-

cality of manufacture. In the United States this variety of cheese has been known to a limited extent as *tosciano* cheese, *sardo* cheese, and *incanestrato* cheese. These names are not the common or usual names of this cheese, and to permit their use as synonyms for *romano* cheese might result in consumer confusion. (R. 2915-2916, 3769, 3802, 3961, 3965)

79. In Italy this variety of cheese was originally made from sheep's milk, and was called *pecorino* (from the Italian word *pecora*, meaning sheep) *romano*. Subsequently, the same type of cheese was also made from cow's milk, and was called *vaccino* (or *vacchino*) (from the Italian word *vacca*, meaning cow) *romano*. This variety of cheese is also sometimes made from goat's milk, and is called *caprino* (from the Italian word *capra*, meaning goat) *romano*. In the United States practically all this variety of cheese has been made from cow's milk and sold and distributed under the name *romano* cheese. No cheese of this variety is known to be made in the United States from sheep's milk, although it has been made to a limited extent in some western States from either goat's milk or a mixture of goat's milk and cow's milk. *Romano* cheese is the common name of the variety, whether made from cow's milk, sheep's milk, goat's milk, or mixtures of these. Consumers should be informed of the animal origin of the milk. (R. 1320, 1325-1326, 2915, 2971, 3961-3964, 3981-3983, 3990, 4012-4015, 5345-5346)

80. The procedure for making *romano* cheese, wherever made, is basically as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Harmless artificial coloring may be added. Rennet, rennet paste, or extract of rennet paste is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut into pieces no larger than corn kernels, heated, and stirred until the temperature reaches about 120° F. The curd is allowed to settle, then removed from the kettle or vat, drained for a short time, placed in hoops, and pressed. The pressed curd is removed and salted by immersing in brine for about 24 hours and is then removed from the brine and the surface is allowed to dry. It is then alternately rubbed with salt and washed. It may be perforated with needles. It is dry-cured. During the curing it is turned and scraped. The surface may be rubbed with vegetable oil. (R. 3771, 3908, 3909)

81. *Romano* cheese is used principally as a grating cheese, but it is also used to some extent as a table cheese. It has a granular texture, a rather piquant flavor, and a hard, brittle rind. It is usually cured for 6 months or more, but some of the smaller sizes are cured for about 5 months. When made from cow's milk, some of the fat is removed. If too much fat is removed, however, there is not enough left for proper flavor development. A reasonable minimum limit for



fat in the solids is 38 percent. During curing the moisture content of the cheese is reduced and a reasonable maximum limit for moisture content is 34 percent. (R. 703, 3769-3771, 3803, 5345)

82. Three related varieties of cheese are made in the United States from cow's milk, and are known as asiago fresh cheese (or asiago soft cheese), asiago medium cheese, and asiago old cheese, respectively. Asiago fresh cheese is used as a table cheese; asiago medium cheese is used both as a grating cheese and as a table cheese; and asiago old cheese is used as a grating cheese. The procedure for manufacturing these three varieties of cheese, which is basically the same except for the fat content of the milk and length of curing time, is as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Rennet is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut, stirred, and heated to promote lactic-acid development and regulate separation of the whey from the curd. The whey is drained. When the curd is sufficiently firm it is removed from the kettle or vat, further drained for a short time, packed into hoops, and pressed. The pressed curd is salted in brine, then cured in a well-ventilated room. During curing the surface of the cheese is occasionally rubbed with a vegetable oil. (R. 3819, 3821-3825, 3829, 3838)

83. Asiago fresh cheese is made from whole milk and has not less than 50 percent of fat in its solids. Consumers of this type of cheese desire a cheese that is relatively soft, and the moisture content is usually above 40 percent but not over 45 percent. This cheese is cured for not less than 60 days. (R. 3818-3821, 3826, 3909-3910)

84. Asiago medium cheese is usually made from milk from which some cream has been removed, and contains not less than 45 percent fat in the solids. This cheese is cured for not less than 6 months, and due to this long curing period the moisture content is not more than 35 percent. (R. 703, 3821-3823, 3829-3830)

85. Asiago old cheese is made from partly skimmed milk and is cured for not less than 12 months. Due to the longer curing period, there is a reduction in moisture content. This cheese contains not more than 32 percent moisture, and its solids contain not less than 42 percent milk fat. (R. 703, 3823-3825, 3831-3832, 3910-3911)

86. A type of hard cheese made from skim milk, to which is added a species of clover which has been dried and ground, is made in Switzerland and other parts of the world. It is made in the shape of a truncated cone and has a pale-green color, and is commonly known as sap sago cheese. The method of manufacturing sap sago cheese is essentially as follows: Soured skimmed cow's milk is heated to boiling tempera-

ture, with stirring. Cold buttermilk may be added. Sufficient sour whey is added to give the curd the desired consistency. The curd is spread out in boxes and is allowed to drain and ferment while being pressed. It is allowed to ripen and dry for not less than 5 weeks. The dried and ripened curd is ground, and salt and dried aromatic clover of the species *Mellilotus coerulea* are added. The mixture is coerced into the characteristic shape by forcing it into molds. It is cured for not less than 5 months. Due to the heating of the milk prior to precipitation of the curd and to the length of curing time of sap sago cheese, it can reasonably be expected that pathogenic organisms are destroyed and that it is safe for consumption. The moisture content of sap sago cheese is not more than 38 percent. The fat content is low, and there is no need to set a minimum requirement for fat. (R. 1298, 2283-2284, 2389-2390, 4258, 4637-4643, 4598-4599; Ex. 26, 63)

87. Cook cheese, sometimes called koch kaese, is a variety of soft cheese made from cottage cheese curd. This is cured, often with the addition of a white mold, then heated so that it melts, and is then poured into containers. To the melted cheese may be added cream, salt, caraway seed, or a mixture of two or more of these. The method of manufacturing cook cheese is essentially as follows: Skim milk is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. A culture of a harmless white mold may be added. Sufficient rennet, with or without purified calcium chloride in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of the milk, may be added to aid in setting the skim milk to a semisolid mass. The mass is cut and heated with continued stirring so as to promote and regulate the separation of the curd and whey. The whey is drained, and the curd is cured for 2 or 3 days. It is then heated to a temperature of not less than 180° F. until the hot curd drops from a ladle with a consistency similar to that of honey. Pasteurized cream, salt, or caraway seed or any mixture of two or more of these may be added. The hot cheese is filled into packages and cooled. (R. 3072-3074, 3081)

88. In place of all or part of the skim milk used in making cook cheese, a satisfactory product can be made by using concentrated skim milk, that is, skim milk from which a portion of the water has been removed by evaporation, or non-fat dry milk solids, or both, with water in a quantity not in excess of that sufficient to reconstitute such concentrated skim milk or nonfat dry milk solids which may be used. (R. 2658, 2660, 2666)

89. Due to the heating of the curd for the purpose of melting it, in the manufacture of cook cheese, it can reasonably be expected that pathogenic organisms and the enzyme phosphatase are destroyed. The moisture content of cook cheese is not more than 80 percent. The fat content is low, and there is no need to set a minimum requirement. (R. 3073, 3081)

90. A type of cheese prepared from the skim milk of cows is made in Norway and known as gammelost. This type of cheese is sometimes shipped to the United States and may be made at times in the United States. The procedure used is as follows: A starter, consisting of a culture of harmless lactic-acid-producing bacteria, is added to skim milk, and the mix is allowed to stand until it has become quite acid. The mixture is heated to about 145° F. and maintained at this temperature for not less than ½ hour. During heating the curd is occasionally stirred. The whey is drained off, and the curd is filled into forms and pressed; the shaped curd is then placed in the whey and heated for 3 or 4 hours. It is removed and may again be pressed. It is then stored until sufficiently cured. Gammelost is a hard cheese and usually contains about 52 percent water. The fat content is low, and there is no need in a standard to set a limit on fat. (R. 5296-5299; Ex. 26)

91. Because of the many varieties of cheese that will be included in the different class standards, some of which may be made from sheep's milk or goat's milk, it is reasonable to provide that cheeses falling within the class standards may be made from the milk of cows, sheep, or goats, or mixtures of these (finding 11). It is reasonable to permit the adjustment of the milk by separating part of the fat therefrom or by adding thereto one or more of the following: cream, skim milk, concentrated skim milk or nonfat dry milk solids, or the corresponding products prepared from sheep's milk or goat's milk. It is reasonable to permit the use of calcium chloride, as described in finding 14, harmless enzymes, as described in finding 18, harmless flavor-producing microorganisms, and to permit curing under suitable conditions for the development of biological curing agents. For the reasons set forth in findings 19, 20, and 21, it is reasonable to require that such cheeses be made from pasteurized milk, or in the alternative, that they be held for not less than 60 days at a temperature of not less than 35° F. (R. 699-870, 709, 719-720, 731, 733-734, 1231, 1292-1295, 1313, 5062)

92. In order to prevent the substitution of skimmed milk or partly skimmed milk cheeses, for cheeses made in the United States from whole milk (finding 16), it is reasonable to require that cheeses known as hard, semisoft, and soft ripened, for which there is no specific definition and standard of identity, contain not less than 50 percent fat in the dry matter. Manufacturers of cheeses outside the United States can readily modify their manufacturing processes so that their cheeses will comply with standards based on American methods of manufacture, or in unusual cases may apply for a specially applicable standard. It would not promote honesty and fair dealing in the interest of consumers in the United States to lower the class standards to permit the general use of partly skimmed milk for making these cheeses. (R. 1019-1020, 1028-1029, 1103, 1340-1341, 1344, 1347, 1351-1352, 1359, 1447-1448, 1476, 1638-1642, 1646, 1700)



93. The amount of moisture in a cheese is one of the factors which determines into which class it falls. In the United States hard cheeses produced in the greatest quantity have not more than 39 percent moisture, and it is reasonable to set this limit for moisture in hard cheeses for which there is no specified definition and standard of identity. The moisture content of semisoft cheeses is necessarily higher, and a reasonable range of moisture for such cheese for which there is no specific definition and standard of identity is from 39 to 50 percent. In the case of soft ripened cheeses for which there is no specific definition and standard of identity, there are wide variations of moisture content, and it is impracticable to set a moisture limit for this class of cheese. (R. 302, 1016, 1019, 1056, 1060, 1111, 1292, 1294-1295, 1302-1304, 1322-1323, 1338, 1360, 1376, 1638, 1645, 4512-4513; Ex. 26)

94. The procedure for manufacturing all hard cheeses cannot be described in great detail owing to the variations practiced but it is essentially as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, with or without other harmless flavor-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Harmless artificial coloring may be added. Rennet, or rennet paste, or extract of rennet paste, is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut into small particles, stirred, and heated. The curd is separated from the whey, drained, shaped into forms, and may be pressed. The curd is salted at some stage of the manufacturing process. The shaped curd may be cured to develop flavor. The rind may be coated with paraffin, or rubbed with vegetable oil, or both. (R. 1294-1295, 1338, 1428; Ex. 26)

95. As is the case in hard cheeses, there are many variations practiced in the manufacture of semisoft cheeses, and it is impossible to describe in detail the manufacturing procedure for semisoft cheese. In general, the manufacturing procedure is similar to that used for making hard cheeses, except that the curd is not necessarily cut or heated. Semisoft cheeses may be cured under suitable conditions for the development of biological curing agents. Finding 41 is also applicable to semisoft cheeses. (R. 1016-1019, 1088, 1102, 1338, 1352-1359, 1428, 1638-1642)

96. The procedure for manufacturing soft ripened cheeses is similar to that used in making semisoft cheeses, except that heat may not be used, and the curd, after the whey has been separated from it, is cured under suitable conditions for the development of the biological curing agents that impart to the particular variety of cheese their distinctive characteristics. This is usually effected by the development of such curing agent on the surface of the cheese and conducting the process so that the cheese cures from the surface toward the center. Sufficient

data on the phosphatase content of soft ripened cheeses are not available for use as a basis for incorporating a test for phosphatase in the definition and standard of identity for this class of cheese. (R. 318, 1230-1231, 1330-1331, 1428)

97. Definitions and standards of identity were proposed for some of the more important varieties of cheese intended primarily for grating purposes. In addition to such cheese there are other varieties of lesser importance made in the United States and elsewhere which are also intended primarily for grating purposes. It is impracticable to adopt specific definitions and standards of identity for each of such cheeses. (R. 685, 2917, 4050, 4155, 4260; findings 74, 80, 81; Ex. 26)

98. Hard grating cheeses are usually made from cow's milk, but at times they may be made from sheep's milk or goat's milk, or mixtures of these with cow's milk. In making such cheeses, a portion of the fat is generally removed from the milk. A minimum amount of fat is necessary for development of desirable flavor. In order to prevent the use of milk from which more fat has been removed than is customary in such cheeses, and to make sure that there is sufficient fat for proper flavor development, it is reasonable to require that hard grating cheeses contain at least 32 percent of milk fat in the solids. Hard grating cheeses are relatively low in moisture content. The maximum moisture content compatible with the characteristics of hard grating cheese is 34 percent. (R. 1316, 2917, 2973, 2987-2990, 3996-3997, 4134, 4156; Ex. 26, 94-96, 220)

99. Hard grating cheeses are cured for relatively longer periods of time than other cheeses, in order to develop sharp flavor. The minimum curing time compatible with the development of the characteristic sharp flavor is 6 months. Due to the long curing period, such cheese may reasonably be expected to be safe for consumption even when made from unpasteurized milk. (R. 2987, 3908, 4545, 5215-5216; finding 20; Ex. 26)

100. It is impossible to describe with great particularity the manufacturing procedure for hard grating cheese, but in general it is similar to that used in manufacturing hard cheese. Rennet, rennet paste, or extract of rennet paste may be used. The rind may be colored or rubbed with vegetable oil or both. The use of partly skimmed milk; the amount of cutting, stirring, and draining; the heating temperature, and the long curing period are some of the factors that give hard grating cheese its characteristics. (R. 3727, 3731-3732, 3843-3845, 3904, 3907, 5215-5216; Ex. 26, 94, 96)

101. Separate specific definitions and standards of identity were proposed for hard grating cheeses under the names of monte cheese and modena cheese. The distribution of these cheeses is limited. A definition and standard of identity for monte cheese or modena cheese, or the inclusion of products of such composition in the class standard for hard grating cheeses, would in effect provide for manufacturing a hard grating cheese deficient in fat and would not promote

honesty and fair dealing in the interest of consumers. (R. 521, 2974, 3888, 3906, 3941-3942, 3944, 5216; finding 97)

102. Several varieties of cheeses are made in various parts of the world which resemble members of the class for which a standard is proposed under the class name semisoft cheeses. They differ, however, from the cheeses for which this standard is applicable in that they are made from partly skimmed milk, and the fat content of their solids ranges from 45 to 50 percent. Many of these cheeses have obtained popularity under specific names, and cheeses of this class vary from each other due to the conditions under which they are made and stored, although the basic procedure used for their preparation is essentially the same. This procedure is the same as that described for preparing semisoft cheeses, except that partly skimmed milk is used. (R. 1028, 1102, 1374-1376, 3425, 3529, 4512-4513, 5003-5004, 5006; Ex. 26, 29-33)

103. There are a number of varieties of cheese, some made in the United States and others shipped into the United States, which are characterized by the presence of certain spices. Such cheeses fall into one of the general classes of spiced cheeses, rather than a class based on the texture of the cheese. Cheeses of this class are particularly popular in the Scandinavian countries and with consumers in this country who are familiar with cheeses as made in such countries. Spiced cheeses are usually made from partially skimmed cow's milk, although a few varieties are also made from whole milk. The spices added may be pepper, caraway seed, cloves, cumin seed, anise seed, sage, or other spices. In some varieties of cheese more than one spice is used. The oils extracted from such spices are sometimes used in addition. Some of the cheeses of this class are known as noekkelost, kuminost, leyden, frisian clove, Christian IX, caraway, pepato and sage. The use of certain spices and combinations of them by long-continued practice has become associated with the name of a particular variety of spiced cheese. It would be deceptive to consumers to permit the use of spice or spice oil which simulates the flavor of aged cheese. (R. 1087-1088, 1093-1094, 1096, 1130-1131, 1139, 1141, 1162-1164, 1683-1689, 1697-1699, 2919, 3832-3855, 3840-3841, 4904-4906, 5014, 5058, 5280; Ex. 198)

104. It is impracticable to adopt a specific definition and standard of identity for each of the varieties of spiced cheese. The flavor of such cheeses is due primarily to the spices used, and satisfactory spiced cheeses can be made from partly skimmed milk. In order to differentiate spiced cheeses made from partly skimmed milk from those made from whole milk, two separate class standards should be established, one for spiced cheese and one for part-skim spiced cheese. Spiced cheese has not less than 50 percent milk fat in its solids, and part-skim spiced cheese has less than 50 percent but not less than 20 percent fat in its solids. The record does not furnish a basis for setting moisture limits for spiced cheeses. (R. 1141-1142, 1169-1170, 1683, 1705-1706, 4904-4907,



5015, 5058, 5246-5248, 5281, 5298-5299; Ex. 26, 156, 160)

105. The method of manufacturing spiced cheese is similar to that used in manufacturing hard cheese, except that during the procedure spices are added. In general, not less than 1½ ounces of spices are added for each 100 pounds of cheese, and this is a reasonable minimum requirement for the total amount of spices to be used in these cheeses. (R. 1087-1088, 1095, 1128, 1142, 1163, 1169, 5016-5018, 5297)

106. A number of foods which resemble cheese in some respects are made in whole or in part from cheese whey. Milk or cream or both are sometimes added. Such foods, although not cheese as that word is commonly understood, are generally referred to as whey cheeses. Such foods may be made from the whey of cow's milk or goat's milk or mixtures of these, to which may be added cow's milk or goat's milk or cream or mixtures of these. Some of the names under which whey cheeses are known are mysost, flostost, primost, ricotta, and gjetost. Due to the extremely variable composition of these foods it is impracticable to adopt a class standard which will be of value in promoting honesty and fair dealing in the interest of consumers, and the record does not give a basis for establishing the multiplicity of standards that would be required to cover the many varieties of whey cheese made. By designating a food of this kind as "whey cheese," the possibility of consumers' confusing it with a cheese made from milk will be minimized. (R. 5249-5251, 5254-5255, 5261, 5295, 5310, 5312, 5319; Ex. 26, 242, 243, 244)

107. A variety of cheese which resembles cheddar cheese and some other varieties of hard cheese is made in the United States from separated milk. Such skim milk normally contains only about one-tenth of 1 percent of fat, and cheese made therefrom may contain about 1 percent, or slightly more milk fat. This cheese can also be made in whole or in part from a reconstituted skim milk, prepared from nonfat dry milk solids or concentrated skim milk and water. This variety of cheese is suitable for use as an ingredient in preparing certain other foods, particularly bakery products. It has also been used as an ingredient of cheese foods and cheese spreads, although its use for these purposes is not to be recommended. (R. 2902-2904, 2906-2911, 2976, 2998-2999, 5369-5370)

108. Skim-milk cheese for manufacturing is entirely unsuitable for general cheese use. Due to its resemblance to other cheeses, which are more costly and generally more desirable, it could, to some extent, be substituted for them. It will promote honesty and fair dealing in the interest of consumers to establish a definition and standard of identity for this variety of cheese containing provisions designed to lessen the possibility of deception to consumers. The name "skim milk cheese for manufacturing" accurately describes the product. Such a cheese should be identified in such a way as to prevent its being substituted for, or confused with, varieties of hard cheese which it resembles. This

can be accomplished by requiring that skim-milk cheese for manufacturing be coated with blue-colored paraffin or other firmly adhering material, colored blue. (R. 2902, 2904, 2909, 2930-2931, 2969, 2999, 5364)

109. The procedure used for preparing skim-milk cheese for manufacturing is similar to that used in preparing hard cheeses. There is some evidence as to the advantage of incorporating other nonfat ingredients of milk in this type of cheese, but the evidence is insufficient to permit the blanket use of all such ingredients. From evidence on other cheeses it appears that there will be some advantage in the incorporation in this cheese of the proteins usually lost in the whey. The incorporation of lactose or minerals in excess of amounts normally present would apparently serve no useful purpose. The moisture content of such a cheese is not more than 50 percent. Since this variety of cheese is suitable only for manufacturing, it is not necessary that its standard require that the skim milk used be pasteurized or that the skim-milk cheese for manufacturing made therefrom be held for not less than 60 days. (R. 2905-2906, 2908-2909, 3115, 5365)

110. There was testimony relative to abuses in the sale of foods purporting to be grated cheeses. It was recommended that a standard which would curtail or prevent these abuses be adopted. It is clear that there are abuses in this regard and that it would be desirable to adopt regulations which would curtail or prevent them. However, the evidence does not establish sufficient basis for adopting definitions and standards of identity for such foods which would promote honesty and fair dealing in the interest of consumers. (R. 3855-3856, 3874-3875, 3882-3883, 4017-4020, 4022-4027, 4109-4112, 4599-4600)

111. There was testimony proposing a standard for a cheese made from milk and buttermilk. The testimony showed that this type of cheese had so far been made only in small quantities on an experimental basis. The evidence does not warrant the adoption of a standard for such a cheese. (R. 3074-3116)

112. A number of foods now being marketed are made by grinding and mixing cheeses of the same or more than one variety, with the addition of emulsifying agents, salt, water, and coloring, and heating the mix to make a pasteurized product of uniform texture and composition. These foods are commonly known as pasteurized process cheese. A similar food is occasionally made in the same way, except that no emulsifying agent is employed. Such a food is commonly known as pasteurized blended cheese. (R. 1806, 1858-1859, 1989-1991, 1993-1994, 2013-2014, 2016, 2023, 2030, 2553-2554, 2573-2574, 2604-2606; Ex. 14, 46)

113. The heat treatment necessary to melt the cheese and to give a consistency suitable for packaging requires a temperature of 150° F. for about 30 seconds, or longer. This heat treatment is sufficient to destroy dangerous microorganisms which may have been present in the ingredients used, and also to destroy any

phosphatase in cheese made from unpasteurized milk. The phosphatase test for a properly made pasteurized process cheese may be entirely negative, and in no case does a pasteurized process cheese, when tested by the method described in finding 22, show a phenol equivalent of more than 3 micrograms per 0.25-gram portion. The heat treatment stops further curing of the cheese, and the finished foods retain the characteristics present at the time of manufacture. (R. 1808-1809, 2284-2291, 2297-2301, 2185-2191, 3063-3067, 4039-4042; Ex. 13, 61)

114. Since pasteurization is effected during manufacture, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, swiss cheese for manufacturing, and brick cheese for manufacturing are suitable ingredients for pasteurized process cheese. (R. 401, 411, 1995-1996, 2024, 2724, 2727, 4038-4039)

115. Processing or blending operations may increase the moisture content of the mix because of condensation of steam used for heating the mass and through the addition of ingredients in aqueous solution. The water so added ordinarily increases the moisture content by less than 1 percent, and an allowance of 1 percent moisture above the maximum permitted in the cheese ingredient is reasonable. (R. 1964, 1996, 2002, 2025, 3913)

116. Pasteurized process cheese may be made from different varieties of cheese which do not have the same moisture and fat contents. With certain exceptions, it is reasonable in such cases that the moisture content be the arithmetical average of the maximum moisture contents prescribed for the varieties of cheeses used, plus the allowance of 1 percent necessary for the reasons given in finding 114. (R. 1993, 2002, 2025, 2605, 2758)

117. Establishment of a general maximum limit on moisture in pasteurized process cheese will promote honesty and fair dealing in the interest of consumers, since varieties of natural cheese of very high moisture content may be used in mixtures and would introduce excessive amounts of water. A reasonable maximum limit on moisture is 43 percent, except as noted in other findings. (R. 1964, 2002, 2025)

118. A type of pasteurized process cheese made from cheddar cheese, washed curd cheese, colby cheese, or granular cheese or mixtures of two, or more of these varieties is commonly known as pasteurized process American cheese. Consumers expect a pasteurized process cheese so designated to possess characteristics commonly associated with pasteurized process cheddar cheese. It is reasonable that the maximum moisture content of pasteurized process American cheese be 40 percent. (R. 2002-2004, 2026)

119. Pasteurized process gruyere cheese is sometimes packaged in separate units weighing less than 2 ounces. The packaging of such small sizes requires a higher degree of fluidity than packaging larger sizes, and this fluidity



can at the present time be obtained only by increasing the moisture content of these products to not over 44 percent. (R. 548-561, 698-699, 2025, 2127, 2129, 2135, 4338, 4347; Ex. 76, 79)

120. It is not possible to manufacture a generally acceptable pasteurized process limburger cheese with a moisture content not exceeding 43 percent, since consumers expect pasteurized process limburger cheese to resemble the natural limburger cheese, which has a high moisture content and is somewhat soft. A reasonable maximum moisture content of pasteurized process limburger cheese is 51 percent. (R. 2002, 2025)

121. The fat content of the solids of pasteurized process cheese made of one variety of cheese, in practice, has been equal to that of the variety of cheese used, and it is reasonable to require that this practice be continued. It is reasonable to require that the fat content of the solids of a pasteurized process cheese made from two or more varieties of cheese be not less than the arithmetical average of the prescribed minimum fat contents of the solids of the varieties used, and in no case less than 47 percent, except in case of pasteurized process gruyere cheese made from a mixture of gruyere cheese and swiss cheese, the solids of which should contain not less than 45 percent fat. (R. 2002, 2025)

122. The addition of salt and emulsifying agents during processing reduces the fat content of the solids of the finished product. It is customary to compensate, when necessary for this reduction in fat, by the addition of cream. Since the addition of large amounts of cream would alter the characteristics of the product, it is reasonable to limit the addition of cream to a quantity the fat content of which will not increase the weight of the finished product by more than 5 percent. (R. 1872, 1880, 1934-1936, 1980-1981, 1997, 2024)

123. Cheeses of unusually low moisture content are sometimes used in making pasteurized process cheese. To avoid undue hardness in the resulting product, water may be added to the mix. The use of water in such amounts that the moisture content of the finished pasteurized process cheese does not exceed the limits prescribed is reasonable. (R. 1964, 1996, 2002)

124. Abuses may arise when pasteurized process cheese is made from two or more varieties and named after all varieties, if any variety is present in only a very small amount. In case a pasteurized process cheese is made from two varieties, it is reasonable to require that the weight of no variety be less than 25 percent of the total weight of cheese used; and in case three or more varieties are used, it is reasonable that the weight of no variety be less than 15 percent of the total cheese weight, except when certain highly flavored varieties are used. Limburger cheese, blue cheese, roquefort cheese, and gorgonzola cheese possess very definite flavors which are imparted to pasteurized process cheese by use of lesser amounts. Desirable characteristics from blue, roquefort, and gorgonzola cheeses are imparted by use of 10 percent or more of one of these

varieties in a cheese mix containing two varieties, and by use of 5 percent of any of these varieties in a cheese mix made of three or more varieties. The desired flavor from limburger cheese may be imparted if it constitutes 5 percent of the cheese weight when two varieties are used, and if it constitutes 3 percent of the cheese weight when three or more varieties are used. (R. 2002-2003, 2025, 2732-2733)

125. A type of pasteurized process cheese made from a mixture of gruyere cheese and swiss cheese was introduced into the United States from Switzerland, under the name "petit gruyere cheese." It was later designated "process gruyere cheese." Some such cheese was made from swiss cheese alone. Later, some of the processed swiss cheese made in the United States from swiss cheese was labeled at times as process gruyere cheese. It was believed by many in the United States that swiss cheese and gruyere cheese were the same cheese, but made in different areas. The evidence showed (finding 36) that gruyere cheese is a different variety of cheese from swiss cheese. It will not promote honesty and fair dealing in the interest of consumers to permit pasteurized process swiss cheese to be labeled pasteurized process gruyere cheese. Processed mixtures of gruyere cheese and swiss cheese having not less than 25 percent gruyere cheese are sufficiently characterized by the presence of gruyere cheese to be known as pasteurized process gruyere cheese, provided that the fat content of the solids of the finished process cheese is not less than 45 percent. (R. 536, 2002-2003, 2127, 2271, 4319, 4327-4328, 4331, 4342-4344, 4354, 4358, 4368, 4621, 5162; Ex. 26, 76, 79, 112-121, 124-127, 223-224)

126. With few exceptions, cheeses the solids of which contain less than 50 percent milk fat have not been used in pasteurized process cheese or pasteurized blended cheese, pasteurized cheese foods, pasteurized cheese spreads, cold-pack cheese or cold-pack cheese food. The use of members of the classes of cheeses made from part-skim milk (namely, hard grating cheese, semisoft part-skim cheese, and part-skim spiced cheese) in such foods might result in producing foods not of the expected identity and in practices not in the interest of consumers, through the substitution of part-skim cheeses for whole milk cheeses. (R. 1880, 1934, 2002-2004; finding 92)

127. Salt and harmless artificial coloring are used in making pasteurized process cheese, to produce uniformity in seasoning and color. (R. 1996)

128. Spices and flavorings are sometimes used to produce characteristic flavors desired by certain consumers. The simulation of the flavor of a cheese or an aged cheese through addition of spices or flavorings would be deceptive, and is not in the consumer's interest. Consumers are interested in having the presence of spices or flavorings declared on the label. (R. 1872-1873, 1875, 1936, 1942, 1958, 1969, 2001, 2024, 2245)

129. Smoked cheeses may be used in making pasteurized process cheeses, or the pasteurized process cheeses may be smoked. Substances obtained by con-

densing and precipitating wood smoke are sometimes added to impart characteristics similar to those of smoked cheese. Appropriate label designation of such added substance is the statement "with added, \_\_\_\_\_," the blank being filled in with the name of the added ingredient. (R. 1984-1985, 2004, 2026, 2876)

130. It is necessary for the fat of pasteurized process cheese to be uniformly dispersed and held in suspension. The casein of aged cheese is in suitable form to hold the fat, after processing. The casein of many cheeses used does not possess this property, but it may be rendered suitable by the action of certain emulsifying agents. Chemicals which have been found suitable for this purpose are monosodium phosphate, disodium phosphate, trisodium phosphate, dipotassium phosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium metaphosphate (sodium hexametaphosphate), and sodium potassium tartrate. The emulsifying agents named are used singly and as mixtures, but the total weight of emulsifying agents required does not exceed 3 percent of the weight of the pasteurized process cheese. Since emulsifying agents may contain combined water, or be used in aqueous solution, it is reasonable that the amount of such agent used be calculated on the basis of its solids. Sufficient evidence was not adduced during the hearing to determine the suitability of ammonium salts as emulsifying agents. A provision in a definition and standard of identity for use of any suitable harmless emulsifying agent would not be in the interest of consumers, since it would not insure adequate prior testing of chemicals that might be useful as emulsifying agents, and so might result in long-continued use of harmful agents before their unsuitability became known. (R. 147, 183, 206, 1859-1863, 1879, 1901, 1910-1911, 1923, 1963, 1998-1999, 2024, 2157, 2161, 2234, 2243, 3276, 2329-2330, 2378-2379, 2531, 2533, 2638-2639; Ex. 46-50)

131. The action of emulsifying agents may be incomplete if the pH of the mix being processed is excessively high. The pH can be adjusted by the addition of acids. Vinegars, lactic acid, citric acid, acetic acid, and phosphoric acid have been found suitable for pH adjustment. Reduction of the pH below 5.3 does not improve emulsifying-agent action, and may alter the characteristic flavor of the product. It is reasonable that the use of acids be limited to such amounts that the pH of the finished product is not below 5.3. The proposed acidifying agent, hydroxy-acetic acid is unsuitable for use in foods. (R. 1914-1915, 1941, 1947, 1965, 2024, 2873, 4242)

132. The common name of a pasteurized process cheese made from one variety of cheese is the name of the variety of cheese used, qualified by the words "pasteurized process." (R. 2004, 2026, 2273, 2573-2574, 2612)

133. In the case of pasteurized process cheese made from two or more varieties, the common or usual name is "pasteurized process," followed by the names of



the varieties of cheese used, in the order of their predominance by weight; or the name may be "pasteurized process," followed by the name of the principal cheese used, this followed by the words "blended with" and the name of the varieties present in lesser amount. (R. 2004, 2021, 2026, 2758)

134. The cheeses ordinarily used for processing are hard cheeses, although sometimes the semisoft cheeses are used. Cream cheese and neufchatel cheese are often packed by what is called the hot-pack process, in the course of which the curd of these cheeses is melted and mixed, and gum used. It is unnecessary to use any chemical to soften the casein of these cheeses. When so made, the finished cheese is not known as a process cheese. Cream cheese and neufchatel cheese are not therefore proper starting cheeses for the manufacture of pasteurized process cheeses, but may be used in pasteurized blended cheeses. (R. 1820, 1992)

135. The methods for determining moisture content and fat content described in finding 24, and for determining phosphatase described in finding 22, are suitable for analysis of pasteurized process cheese and pasteurized blended cheese. (R. 2003, 2026)

136. There are a few blended cheeses made by comminuting and mixing cheese of the same or two or more varieties, with the aid of heat sufficient to pasteurize the mix where no emulsifying agent is used. The names of pasteurized blended cheeses correspond to those of pasteurized process cheeses, except that the word "blended" replaces the word "process" in the name. They are commonly known as pasteurized blended cheese, and are identical with pasteurized process cheese, except that no emulsifying agents or acidifying agents are used. With the exception of findings relative to emulsifying agents and acids and the over-all limits on moisture, the findings with respect to pasteurized process cheese are applicable to pasteurized blended cheese. (R. 2604-2607)

137. A number of foods closely resembling pasteurized process cheese, but differing from them in that they contain varying amounts of fruits, vegetables, or meats or mixtures of these, are now being marketed. The number of such foods is increasing. The addition of fruits, vegetables, or meats is for the purpose of altering the flavor and eating characteristics or the pasteurized process cheese to varying degrees. The amounts of the fruits, vegetables, or meats added vary, and, except in the case of pimentos and canned and cooked meats, there is insufficient evidence in the record to use as a basis for establishing limits on the amounts which may be added. The minimum percent of a meat product necessary to bring about a change in flavor and eating quality is not definitely shown by the record. Although it is desirable to establish a minimum limit for such an expensive ingredient as meat, the evidence does not furnish sufficient basis for fixing a numerical limit. Sufficient meat should be added to impart its distinctive characteristics. (R. 1936, 1956-1957, 1970-1971, 2006, 2326)

138. The fruits or vegetables added must be properly prepared, and either cooked, canned, or dried before addition to the pasteurized process cheese. Meats must be properly prepared and cooked or canned. (R. 1972, 1974-1975, 2006)

139. The moisture content of pasteurized process cheese may be increased and the percent of milk fat in the solids decreased by the addition of fruits, vegetables, or meats. An increase of 1 percent over the maximum percent of moisture permitted in the pasteurized process cheese and a decrease of 1 percent of the milk fat content of the solids are sufficient to allow for the changes due to the addition of the fruits, vegetables, or meats. (R. 1961, 1964, 1968, 2007-2008, 2023)

140. Such foods are commonly designated by the name of the pasteurized process cheese, followed by the common or usual names of the added fruits, vegetables, or meats. In order to provide a uniform system of designating these foods, it is reasonable that the name specified be the name provided in the definition and standard of identity for pasteurized process cheese for the cheese portion of the food, to which is added the statement "with \_\_\_\_\_" the blank being filled in with the name or names of the added fruits, vegetables, or meats. In order to properly inform consumers of the optional ingredients used, the requirement for label statement of optional ingredients prescribed for pasteurized process cheese should also be prescribed in the definition and standard of identity for pasteurized process cheese with fruits, vegetables, or meats. (R. 1956-1957, 2006)

141. Where fat, other than milk fat, is introduced into the pasteurized process cheese with fruits, vegetables, or meats by the addition of vegetables or meats, a special method of analysis for the determination of the milk fat must be used instead of that named in finding 135 for pasteurized process cheese. A competent chemist can make the determination with reasonable accuracy. The same situation exists with respect to pasteurized process cheese foods with fruits, vegetables, or meats, and with respect to pasteurized process cheese spreads with fruits, vegetables, or meats. (R. 2323-2324)

142. A particular type of pasteurized process cheese is made with pimentos, sometimes spelled pimientos. The preferred spelling appears to be pimento. This food is commonly known as pasteurized process pimento cheese. The cheese ingredient is that commonly known as pasteurized process American cheese. To this are added properly prepared pimentos in such quantity that the weight of the solids of the pimentos is not less than 0.2 percent of the weight of the finished food. The moisture content of pasteurized process pimento cheese is slightly increased over that of the pasteurized process American cheese, but is not more than 41 percent. The fat content of the solids is reduced somewhat by the addition of the pimentos, but is not less than 49 percent. No other fruit, vegetable, or meat is used, and flavors

and spices are not used. (R. 1936-1937, 1941, 1948, 2007, 2028, 2325)

143. In making pasteurized blended cheese with fruits, vegetables, or meats, pasteurized blended cheese is used instead of pasteurized process cheese. Findings 137-141, with respect to pasteurized process cheese with fruits, vegetables, or meats, are applicable to pasteurized blended cheese with fruits, vegetables, or meats.

144. A class of foods similar in appearance and taste to pasteurized process cheese was developed many years ago and has been sold in large quantities over a period of years under the name "pasteurized process cheese food." The foods of this class are essentially pasteurized process cheeses to which have been added milk or certain milk products. The reason for this addition in the beginning was to create a softer product of somewhat milder taste than pasteurized process cheese, and to return to the cheese some of the nutrients of milk normally eliminated in the manufacture of cheese. The flavor of these foods has been further modified at times by the addition of salt; and their appearance has been standardized by the addition of artificial coloring. (R. 1813-1815, 1836, 2294-2295, 2313, 2500, 2536-2537, 2555, 2709, 4164; Ex. 14, 97-108)

145. The addition of milk products in liquid form tends to increase the moisture content of a pasteurized process cheese and render it softer. When milk products are added in the dry form, additional water is also usually added. Generally, the additional water serves to make a pasteurized process cheese food softer than the corresponding pasteurized process cheese. (R. 2587-2588, 2591)

146. Due to the similarity of pasteurized process cheese foods to pasteurized process cheeses, findings 113, 114, 124, 130, 131, 134, and 135 (see also finding 150), having to do with pasteurized process cheeses, are applicable to pasteurized process cheese foods. (R. 147, 183, 206, 401, 411, 1808-1809, 1820, 1859-1863, 1879, 1901, 1910-1911, 1914-1915, 1923, 1941, 1947, 1963, 1965, 1992, 1995-1996, 1998-1999, 2002-2003, 2024, 2025, 2026, 2157, 2161, 2185-2191, 2234, 2243, 2276, 2297-2301, 2309, 2318, 2319-2320, 2329-2330, 2378-2379, 2531-2533, 2638-2639, 2724, 2727, 2732-2733, 2843, 2844, 2873, 3063-3067, 4032-4034, 4038-4042, 4242; Ex. 13, 46, 50, 61)

147. The characteristics of pasteurized process cheese foods depend upon the quantity of the cheese ingredients used, and the total weight of these cheese ingredients should be not less than 51 percent of the weight of the finished food. In general, the proportion of the varieties of cheese in mixtures should be the same as in pasteurized process cheese, except that the minimum for limburger cheese should be the same as for blue cheese and gorgonzola cheese. (R. 2266, 2312-2313, 2319-2321)

148. Increasing the moisture content of a pasteurized process cheese food over that of the corresponding pasteurized process cheese might result in consumer purchasing water instead of the more



expensive food. A maximum limit on moisture which will permit sufficient softness but prevent the use of excessive water is 44 percent. (R. 2321, 2485, 2566)

149. The addition of such milk products as skim milk, concentrated skim milk, nonfat dry milk solids, and cheese whey lowers the fat content. In order to maintain the character of these foods it is necessary that they contain substantial amounts of milk fat. A reasonable minimum limit for milk fat is 23 percent. (R. 2321, 2483, 2485, 2566)

150. Milk products added to pasteurized process cheese in preparing pasteurized process cheese foods vary, and various mixtures of these ingredients are used. Those in common use are cream, milk, skim milk, or cheese whey or such products from which part or most of the water has been removed. The lactose in whey is affected by long drying. Since a pasteurized process cheese food usually contains some form of whey, the method for determining moisture prescribed for pasteurized process cheese is not suitable for a pasteurized process cheese food so far as it requires drying to a constant weight. The method will be suitable for a pasteurized process cheese food if drying is restricted to 5 hours. (R. 2281, 2294-2295, 2486, 2525, 2601, 4034, 4037, 4043-4045)

151. Proposals were made to permit the addition to process cheese foods of a product prepared from cheese whey known as albumin. This is a normal constituent of milk, has significant nutritive value, and appears to be suitable for such use. It was also proposed to permit the addition of lactose. No showing was made as to how this would be of any advantage to the consumer. (R. 2315, 2483, 2521-2522, 3173)

152. It was proposed that a cheese made wholly of skim milk and designated as skim-milk cheese for manufacturing be permitted to be used as an optional dairy ingredient in the manufacture of pasteurized process cheese foods. The use of such a product, consisting largely of casein and water, in a pasteurized process cheese food could result in the production of a food that would have essentially the same composition as a pasteurized process cheese food made entirely from a part-skim milk cheese. Such a food would differ from the normal pasteurized process cheese food which is prepared by adding to the cheese ingredient other constituents of milk than the casein. (R. 2902, 2910, 2999, 5223, 5225, 5392)

153. In addition to the milk products primarily used for their nutritive properties, certain sweetening agents were proposed as optional ingredients of pasteurized process cheese foods. There is no evidence that such sweetening agents have ever been used in pasteurized process cheese foods or that their use would serve any useful purpose. The inclusion of such sweetening agents would be likely to change the identity of pasteurized process cheese food. (R. 2315, 2483, 2485, 2523, 2587, 2596-2597, 2828-2829)

154. The ingredients used in addition to the natural cheese in manufacturing pasteurized process cheese foods are less expensive than cheese, and a pasteurized

process cheese food on a pound basis ordinarily sells for less than a corresponding pasteurized process cheese. Because pasteurized process cheese foods are similar in appearance and taste to pasteurized process cheese, the less expensive product at times has been intentionally substituted for the more expensive product in sales to consumers. This type of substitution is a form of unfair competition and a fraud on consumers. Proposals were made to include in the definition and standard of identity for pasteurized process cheese foods specifications for regulating the shape and size of pasteurized process cheese foods so as to lessen the possibility of substitution. It is recognized that the abuse complained of does exist to some extent. If effective measures could be adopted to curb this deceptive practice, it would be in the interest of consumers. However, the evidence does not show that shape or size specifications for pasteurized process cheese foods would be more likely to accomplish the desired purpose than proper labeling requirements. (R. 2264-2265, 2321, 2339, 2360, 2434, 2500-2501, 2585-2586, 3187-3188, 3195, 3199-3200, 3238-3239, 5230)

155. The differentiation of pasteurized process cheese foods from pasteurized process cheese has not always been satisfactory. Several years ago by statute Wisconsin set up certain labeling requirements which have been generally observed by manufacturers of pasteurized process cheese foods. Among other things these regulations required the names of the different ingredients used to be stated on labels. This type of labeling has been helpful in enabling consumers to differentiate between pasteurized process cheese foods and pasteurized process cheese. It will promote honesty and fair dealing in the interest of consumers for the definition and standard of identity for pasteurized process cheese foods to provide those labeling requirements as to optional ingredients which are provided in the definition and standard of identity for pasteurized process cheese and in addition thereto to provide that the labels for pasteurized process cheese foods show the names of the cheese ingredients, the milk ingredients, the emulsifying agents, and the acidifying agents, if any, which are used. (R. 2264-2265, 2340, 2360, 2492, 2506, 2562; Ex. 14)

156. The amount of acidifying agent added is commonly calculated upon the basis of its effect on the pH of the finished food. The quantity added may be somewhat greater than in pasteurized process cheese but should not exceed the amount necessary to reduce the pH to 5.0. (R. 2313-2314, 2483)

157. By adding fruits, vegetables, or meats or mixtures of these to pasteurized process cheese foods, other foods of different flavor and eating characteristics are prepared. The amounts of added ingredients vary, and there is insufficient evidence in the record to use as a basis for prescribing limits on the amounts of fruits or vegetables added, except in the case of pimento cheese. Finding 137, with respect to the meat content of pasteurized process cheese with meats, is applicable. When pi-

mento is the only vegetable ingredient, and no fruit or meat ingredient is used, the weight of the solids of pimento is not less than 0.2 percent of the weight of the finished food. The name of this particular food is "pimento pasteurized process cheese food" or "pasteurized process pimento cheese food." (R. 1936, 1957, 1970-1975, 2006, 2325, 2326)

158. The addition of these ingredients may affect the moisture content of a pasteurized process cheese food. The effect of such addition on the moisture content, however, is easily compensated by altering the proportions of other non-cheese ingredients, and an allowance for additional moisture is not necessary, and would not be in the interest of consumers. It is reasonable to require that the maximum moisture content of a pasteurized process cheese food with fruits, vegetables, or meats be 44 percent. The percent of milk fat is decreased by the addition of such ingredients, and a decrease of 1 percent in the milk-fat content is sufficient to allow for the effect of the addition of fruits, vegetables, or meats, giving a minimum milk-fat content of 22 percent. (R. 2323-2324)

159. The name of this class of food is "pasteurized processed cheese food with -----," the blank being filled in with the name or names of the added fruits, vegetables, or meats. (R. 1956-1957, 1975, 2006)

160. Finding 155 with respect to label declaration of optional ingredients in pasteurized process cheese foods is, applicable to pasteurized process cheese foods with fruits, vegetables, or meats. (R. 2264-2265, 2340, 2360, 2492, 2506, 2562; Ex. 14)

161. A class of food similar to pasteurized process cheese food, but somewhat softer and easier to spread (largely by reason of a higher moisture content) has been manufactured and sold for several years. The common name for such a food is pasteurized process cheese spread. (R. 1817-1818, 2234-2236, 2240, 2246-2247, 2249, 2327, 2557-2558)

162. Pasteurized process cheese spreads can be made so that they resemble pasteurized process cheese or pasteurized process cheese foods; however, the texture of the pasteurized cheese spreads and the form of package are in general sufficient to distinguish them from such other foods. Since pasteurized process cheese spreads contain a larger proportion of water, it is desirable that they be readily distinguishable from pasteurized process cheeses and pasteurized process cheese foods, to prevent deception of consumers and unfair competitive practices. Proposals were made to have the definition and standard of identity for pasteurized process cheese spreads specify distinctive sizes and shapes, which would tend to lessen or make impossible the substitution of pasteurized process cheese spreads for other foods containing cheese. Although it is very desirable to lessen the likelihood of deception in connection with the sale of similar foods, the evidence does not show that prescribing any of the forms and shapes recommended for pasteurized process cheese spreads would be more likely to accomplish the desired purpose than proper labeling. Proposals were also



made to specify that pasteurized process cheese spreads be spreadable. Although the record does not furnish a basis for prescribing a method for measuring spreadability, it is reasonable to require that a pasteurized process cheese be spreadable at 70° F. (a reasonable figure for room temperature). (R. 2237-2257, 2262-2263, 2327, 2333-2339, 2371, 2644-2645, 2847, 2877)

163. The findings dealing with pasteurization, use of cream, use of cheese for manufacturing, phosphatase test, fat and moisture tests, amount and character of cheese ingredients, emulsifiers, and optional dairy ingredients in connection with pasteurized process cheese and pasteurized process cheese foods are also applicable to pasteurized process cheese spreads. (R. 270, 379, 402-403, 943-944, 1166-1168, 2246, 2255, 2262, 2263, 2266, 2337, 2475, 2603, 2616, 2644, 2781, 2801)

164. The softer texture characteristic of pasteurized process cheese spreads is largely due to the addition of water. Unlimited use of water would not be in the interest of consumers. A limit on moisture which will permit sufficient softness is a maximum of 60 percent. (R. 1818, 2235, 2240, 2248-2249, 2273)

165. In order to prevent leakage of water from cheese spreads, gums or similar water-retaining substances may be used. The following substances, or mixtures of two or more of these substances, are suitable for such use: carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, carboxy-methylcellulose, carrageen, oat gum, algin (sodium alginate), and propylene glycol ester of alginic acid. The last-named substance is the chemical name for the derivative of algin which was proposed to be used as an optional ingredient for this purpose. The use of generic terms is not generally approved in describing optional ingredients. However, since this is the only such derivative which is permitted, on the evidence it is found that "algin derivative" adequately describes the substance. The total amount of water-retaining substances used should not exceed 0.8 percent. (R. 2210, 2214, 2222, 2224-2225, 2250, 2333-2338, 2618, 2639, 3123-3132)

166. Instead of, or in addition to, changes in flavor brought about by use of one or more optional dairy ingredients, a sweetening agent may be added, in small amounts. Suitable for such use are: Sugar, dextrose, corn sugar, corn sirup, corn sirup solids, maltose, malt sirup, and hydrolyzed lactose. (R. 2223-2224, 2315, 2597-2598, 2645-2646, 2829, 2839-2840, 3154)

167. Since the moisture content of pasteurized process cheese spreads is higher than that of pasteurized process cheese foods, the fat content is reduced. In order to prevent abuses, it is necessary to prescribe a minimum limit for milk fat. It is reasonable to require that it be not less than 20 percent. (R. 2234, 2248, 2783)

168. If pasteurized process cheese spread were made by adding emulsifying agents, water, and additional milk products to cream cheese, it would be essentially a diluted cream cheese which failed to comply with the standard for cream cheese, since by definition several milk

products containing water may be added to cream-cheese curd to make the so-called hot-pack cream cheese, provided the finished food contains not more than 55 percent moisture and not less than 33 percent milk fat. There is no need for an emulsifying agent in this type of cheese. The situation with respect to neufchatel cheese is similar. It is therefore reasonable to provide that neither cream cheese alone nor neufchatel cheese alone nor combinations of these two cheeses without other cheeses be used in preparing pasteurized process cheese spreads. (R. 1820-1822, 1827-1828, 2230-2231, 2248, 2327-2330, 2475, 2615)

169. Acidifying ingredients used in pasteurized process cheese spreads impart a flavor, at times enhance the action of emulsifiers, and also act as a preservative to inhibit the growth of certain bacteria in the product. They may be added in such amount that the pH of the product is not below 4.0. The acids named in finding 131 are suitable. No significant preservative action is obtained unless the pH is reduced below 5.0. Vinegar has such flavoring qualities that it may be used instead of the other acids in order to obtain the desired flavor. When vinegar alone is used to reduce the pH below 5.0, its preserving effect due to its content of acetic acid is more important than any desirable flavoring effect. (R. 2225, 2234, 2246, 2248, 2255, 2331-2332, 2616)

170. It is necessary that the consumer be informed regarding the optional ingredients of pasteurized process cheese spreads, to avoid confusion with other similar foods. Label declaration of the cheese ingredient; the dairy ingredient; any emulsifying agent, water, and water-retaining substance; acidifying agent, and sweetening agent by their common or usual names will adequately inform the consumer in this respect. When an acidifying agent is used as a preservative, a statement that it is a chemical preservative is required by section 403 (k) of the Federal Food, Drug, and Cosmetic Act. (R. 2231, 2255)

171. A number of foods closely resembling pasteurized process cheese spreads, but differing from them in that they contain varying amounts of fruits, vegetables, or meats, are now being marketed. These foods form a large proportion of the spreadable foods made in part from cheese. (R. 2225, 2246, 2331-2332, 2616)

172. The addition of fruits, vegetables, or meats is for the purpose of altering, in varying degrees, the appearance, flavor, and eating characteristics of the pasteurized process cheese spreads. Otherwise, they are similar in all respects to pasteurized process cheese spread. The amounts of fruits, vegetables, or meats added vary, and there is not sufficient evidence in the record to use as a basis for establishing limits on the amounts of fruits or vegetables added. Finding 137, with respect to the meat content of pasteurized process cheese with meats, is applicable to the meat content of pasteurized process cheese spreads with meats. (R. 1936, 1956-1957, 1970-1971, 2373)

173. The addition of fruits, vegetables, or meats to a pasteurized process cheese

spread affects the moisture and fat contents of the finished food. Any increase in moisture or decrease in fat content due to addition of these ingredients can readily be offset by varying the proportions of other ingredients, without altering the identity of the food, and no allowance for changes of moisture content or fat content is necessary. (R. 2225-2226, 2246, 2263, 2620, 2643)

174. The common name of a food of this type is the name of the pasteurized process cheese spread, combined with the common name of the added fruits, vegetables, or meats. In order to provide a uniform system of designating these foods, it is reasonable that the name specified be the name provided in the definition and standard of identity for pasteurized process cheese spreads, to which is added the statement "with \_\_\_\_\_," the blank being filled in with the name or names of the added fruits, vegetables, or meats. In order to properly inform consumers, the requirements for label statement of optional ingredients provided for pasteurized process cheese spreads should also be made applicable to pasteurized process cheese spreads with fruits, vegetables, or meats. (R. 2373, 2617)

175. A food prepared by comminuting and mixing cheese of one or more varieties, without the aid of heat, is commonly known as cold-pack cheese, club cheese, or comminuted cheese. The soft cheeses, such as cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, and skim-milk cheese for manufacturing, are not used. A primary purpose of the manufacturer of cold-pack cheese is to make a product which can be readily packaged, possessing uniform flavor and texture, and easily handled by users. The curing of the cheeses continues after mixing. (R. 1819-1820, 2227-2228)

176. The manufacture of cold-pack cheese does not include pasteurization of the food. Cheeses which have not been made from pasteurized milk, or which have not been stored for at least 60 days at a temperature of not less than 35° F., are not suitable for use as ingredients. (R. 1819; finding 21)

177. If cold-pack cheese is made from one variety of cheese, it is reasonable to require that the fat and moisture limits be the same as those of the variety from which it is made. If cold-pack cheese is made from two or more varieties of cheese, it is reasonable to require that the moisture content of the finished food not exceed the arithmetical average of the maximum moisture contents prescribed by definitions and standards of identity, if any there be, for the varieties of cheese used, and that the fat content of the solids be not less than the arithmetical average of the minimum fat contents prescribed for the varieties of cheese used. Moisture and fat can be accurately determined by the method prescribed with respect to cheddar cheese (§19.500 (d)). (R. 2227, 2374-2375)

178. Finding 124, with respect to the use of various proportions of cheese of different varieties in pasteurized process cheese, is applicable to cold-pack cheese. (R. 2374)



179. Water is sometimes used in preparing cold-pack cheese, to give uniform composition and texture in the finished food. Salt is sometimes used for seasoning, and color is sometimes used to give uniformity in appearance to the finished food. Cold-pack cheese is subject to spoilage, even when refrigerated. Its keeping qualities are improved by adjusting the acidity to a pH of not less than 4.5 by use of the acidifying agents used in pasteurized process cheese spreads. Acidifying agents are used in cold-pack cheese only for this preservative effect. (R. 1942-1944, 1949-1951, 2227-2228, 2374; finding 131)

180. Cold-pack cheese may be smoked, or contain substances prepared by condensing or precipitating wood smoke. Finding 129, with respect to the use of cheese ingredients which have been smoked or to which have been added substances prepared by condensing or precipitating wood smoke and to label declaration of these ingredients in pasteurized process cheeses, are applicable to cold-pack cheese. (R. 1985)

181. The common name of this food is "cold-pack \_\_\_\_\_ cheese" or "\_\_\_\_\_ club cheese" or "comminuted \_\_\_\_\_ cheese," the blanks being filled in with the name of the variety or varieties, in order of predominance by weight, of cheese used. (R. 1819, 1949, 2227-2228, 2691, 2847)

182. A food which bears the same relationship to cold-pack cheese as pasteurized process cheese food bears to pasteurized process cheese is manufactured and sold under the common class name of "cold-pack cheese food." The dairy ingredients other than cheese used in preparing a cold-pack cheese food should be pasteurized or made from pasteurized milk. Emulsifying agents serve no useful purpose in cold-pack cheese food. Sweetening ingredients such as are used in pasteurized process cheese spread (see finding 166) are suitable for use in cold-pack cheese food. The keeping qualities of cold-pack cheese food are improved by adjusting the acidity to a pH of not less than 4.5 by the use of acidifying agents used in pasteurized process cheese spreads. Acidifying agents are used in cold-pack cheese food only for this preservative effect. (R. 1821, 1933-1934, 2376-2378, 2832-2833, 2847, 3136-3138)

183. Cold-pack cheese food with fruit, vegetables, or meats bears the same relationship to cold-pack cheese food as does pasteurized process cheese food with fruits, vegetables, or meats to pasteurized process cheese food. (R. 1821, 2382, 2859)

**Conclusions.** Upon consideration of the whole record and the foregoing findings of fact, it is concluded that it will promote honesty and fair dealing in the interest of consumers to amend the definitions and standards of identity for cheddar cheese, washed curd cheese, and colby cheese and to establish definitions and standards of identity for the other foods as hereinafter set forth.

§ 19.500 *Cheddar cheese, cheese; identity.* (a) Cheddar cheese, cheese, is the food prepared from milk and other ingredients specified in this section, by

the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 39 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of this section. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and regulate the separation of whey and curd. The whey is drained off, and the curd is matted into a cohesive mass. The mass is cut into slabs, which are so piled and handled as to promote the drainage of whey and the development of acidity. The slabs are then cut into pieces, which may be rinsed by sprinkling or pouring water over them, with free and continuous drainage; but the duration of such rinsing is so limited that only the whey on the surface of such pieces is removed. The curd is salted, stirred, further drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of cheddar cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) Determine moisture by the method prescribed on page 336 (22.124), under "Moisture—Official," and milk fat by the method prescribed on page 337 (22.130) under "Fat—Official," of "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," Sixth Edition, 1945. Subtract the percent of moisture found from 100; divide the remainder into the percent milk fat found. The quotient, multiplied by 100, shall be considered to be the percent of milk fat contained in the solids.

(d) For the purposes of this section: (1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction.

Cheddar cheese shall be deemed not to have been made from pasteurized milk if 0.25 mg. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in paragraph (e) of this section.

(e) The method referred to in paragraph (d) (2) of this section is as follows:

**I. Reagents—1. Buffers—**a. *Barium borate-hydroxide buffer.* Dissolve 25.0 gm. of CP. barium hydroxide ( $\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$ , fresh, not deteriorated) in distilled water and dilute to 500 ml. Dissolve, in another flask or cylinder, 11.0 gm. of CP. boric acid ( $\text{H}_3\text{BO}_3$ ) and dilute to 500 ml. Warm each to 50° C. (122° F.), mix the two together, stir, cool to approximately 20° C. (68° F.), filter, and stopper the filtrate tightly (pH approximately 10.8). The buffer prepared thus is designated as the 25-11 buffer, the figures indicating the grams per liter of each of the respective reagents.

b. *Color-development buffer.* Dissolve 6.0 gm. of sodium metaborate ( $\text{NaBO}_2$ ) and 20 gm. of sodium chloride in water and dilute to a liter with water (pH 9.8).

c. *Color-dilution buffer.* Dilute 100 ml. of color-development buffer 1-b to a liter with water.

d. *Standard borax buffer, 0.01-molar, for checking pH meter, pH 9.18 at 25° C.* Dissolve 0.9544 gm. of pure borax (Bureau of Standards Sample 187) in distilled water (distilled recently or freshly boiled and cooled) and dilute to 250 ml. Keep stoppered tightly.

**2. Buffer substrates.** Specify phenol-free crystalline disodium phenyl phosphate.

a. *For evaluating pasteurization.* Dissolve 0.10 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

b. *For quantitative results with raw-milk cheese.* Dissolve 0.20 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

**3. Protein precipitants—**a. *Zinc-copper precipitant for unripened cheese.* Dissolve 6.0 gm. of zinc sulfate ( $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$ ) and 0.1 gm. of copper sulfate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ) in water and dilute to 100 ml. with water. The precipitant prepared thus is designated as the 6.0-0.1 precipitant.

b. *Zinc precipitant for ripened cheese.* Dissolve 6.0 gm. of zinc sulfate in water and dilute to 100 ml. with water. This precipitant is designated as the 6.0 precipitant.

**4. BQC (2,6-dibromoquinone-chloroimine solution) (Gibbs' reagent);** Dissolve 40 mg. of BQC powder in 10 ml. of absolute methyl alcohol and transfer to a dark-colored dropper bottle. This reagent remains stable for at least a month if kept in the ice tray of a refrigerator. Do not use it after it begins to turn brown.

**5. Other reagents—**a. *Copper sulfate, 0.05 percent, for standards.* Dissolve 0.05 gm. of copper sulfate in water and dilute to 100 ml.

b. *Butyl alcohol.* Specify *n*-butyl alcohol, boiling point 116°-118° C. To adjust the pH, mix 50 ml. of the color-development buffer 1-b with a liter of the butyl alcohol.

**6. Phenol standards—**a. *Stock solution.* Weigh accurately 1.0 gm. of pure phenol, transfer to a liter volumetric flask, dilute to a liter with water, and mix. One ml. contains 1 mg. (0.001 gm.) of phenol. Use this stock solution to prepare standard solutions. It is stable for several months in the refrigerator.

b. *Preparation of standards.* Dilute 10.0 ml. of the stock solution 6-a to a liter with water, and mix. One ml. contains 10 micro-

<sup>1</sup>All pH values reported herein were determined at 25° C. or corrected to that temperature.



grams (0.00001 gm., 10 gammas, or 10 units) of phenol. Use this standard solution to prepare more dilute standard solutions; e. g., dilute 5, 10, 30, and 50 ml. to 100 ml. with water to prepare standard solutions containing 0.5, 1.0, 3.0, and 5.0 gammas or units of phenol per milliliter, respectively. Keep standard solutions in the refrigerator.

In a similar manner, prepare from the stock solution such more concentrated standard solutions as may be needed, containing, for example, 20, 30, and 40 units per milliliter.

Measure appropriate quantities of the phenol standard solution into a series of tubes (preferably graduated at 5.0 and 10.0 ml.) to provide a suitable range of standards as needed, containing 0 (control blank), 0.5, 1.0, 3.0, 5.0, 10.0, etc., to 30 or 40 units. To increase the brightness of the blue color and improve the stability of the standards, add 1.0 ml. of 0.05 percent copper sulfate solution 5-a to each.

Add 5.0 ml. of color dilution buffer 1-c and add water to bring the volume to 10.0 ml. Add 4 drops (0.08 ml.) of BQC 4, mix, and allow to develop for 30 minutes at room temperature. If the butyl alcohol extraction method is to be used in the test, extract the standards as described under III Conducting the Test.

Read the color intensities with a photometer, subtract the value of the blank from the value of each phenol standard, and prepare a standard curve (straight line). When the standards are to be used for visual comparisons they should be stored in a refrigerator.

**II. Sampling—1. Hard cheese.** Take a sample from the interior with a clean Roquefort trier, place in a small tube, stopper the tube, and keep it in a refrigerator.

**2. Soft and semisoft ripened cheese.** Harden the cheese by chilling it in the freezing chamber of a refrigerator. Taking special precaution to avoid contaminating the sample with phosphatase that may be present on the surface, use either of the following methods for sampling:

a. Cut a portion from the end of the loaf or from the side of the cheese, extending in at least 2 inches if possible or to a point somewhat beyond the center in the case of a small cheese. Cut a slit  $\frac{1}{4}$  to  $\frac{1}{2}$  inch deep at least halfway around the portion and midway between the top and bottom. Break the portion into two parts, pulling it apart so that it breaks on a line with the slit, being careful not to contaminate the freshly exposed, broken surface. Remove the sample from the freshly exposed surface at or near the center of the cheese.

b. Remove the surface of the area to be sampled—e. g., the end and the adjacent sides—with a clean knife or spatula, to a depth of  $\frac{1}{4}$  inch. Clean the instrument and hands with hot water and phenol-free soap and wipe them dry. Remove the freshly exposed surface to a similar or greater depth and repeat the cleaning. Then take the sample from the center of the freshly exposed area, preferably at or near the center of the cheese in the case of a small cheese.

**3. Process cheese, spreads, etc.** Take the sample from beneath the surface with a clean knife or spatula.

Avoid the use of samples contaminated with mold.

**4. Preservation.** If a preservative is necessary, put 1 to 3 ml. of chloroform in the container, cover with a plug of cotton, insert sample and stopper container tightly. Label preserved samples, "Poison—Preservative added."

**III. Conducting the test.** 1. Weigh, on a clean balance pan or watch glass, a 0.50-gm. sample (preferably two samples in duplicate) and place in a culture tube 16 or 18 x 150 mm. Similarly, weigh another sample and place in a tube as a control or blank. If the cheese is sticky, weigh the sample on a piece of wax

paper about 1 x 1 inch and insert the paper with the sample into the tube. Macerate the blank and the test with a glass rod about 8 x 180 mm.

2. Add to the blank 1.0 ml. of the appropriate (Table 1) barium buffer 1-a (without substrate added), macerate with the rod, leave the rod in the tube, heat for about a minute to at least 85° C. (185° F.) in a beaker of boiling water with the beaker covered so that the entire tube becomes heated to approximately 85° C., cool to room temperature, and macerate again with the rod.

3. Add to the test 1.0 ml. of the appropriate (Table 1) barium buffer substrate 2-a or 2-b, and macerate.

From this point, treat the blank and the test in a similar manner.

Add 9.0 ml. of the appropriate barium buffer substrate 2-a or 2-b (total, 10.0 ml. added), and mix. The rod may be left in the tube during incubation; or, if removing it at this point, cut a piece of filter paper approximately 1 x 1 inch, wrap and hold it tightly around the rod, rotate the rod while withdrawing it from within the tube so as to wipe the rod clean, insert the paper with the adhering fat into the tube, and stopper the tube.

4. Incubate in a water bath at 37°–38° C. (99°–100° F.) for 1 hour, mixing or shaking the contents occasionally.

5. Place in a beaker of boiling water for nearly a minute, heating to 85° C. (185° F.), and cool to room temperature.

6. Pipet in 1.0 ml. of the zinc precipitant 3-b for ripened cheese or the zinc-copper precipitant 3-a for unripened cheese, and mix thoroughly (pH of mixture, 9.0–9.1).

7. Filter (5-cm funnel, 9-cm. Whatman No. 42 or No. 2 paper recommended), and collect 5.0 ml. of filtrate in a tube, preferably graduated at 5.0 and 10.0 ml.

8. Add 5.0 ml. of color-development buffer 1-b (pH of mixture, 9.3–9.4).

9. Add four drops<sup>1</sup> of BQC 4, mix, and allow the color to develop for 30 minutes at room temperature.

10. Determine the amount of blue color by either of two methods:

a. *With a photometer.* Read the color intensity of the blank and that of the test, subtract the reading of the blank from that of the test, and convert the result into phenol equivalents by reference to the standard curve described under "Phenol standards." The butyl alcohol extraction method is ordinarily unnecessary when using a photometer.

b. *With visual standards.* For quantitative results in borderline instances, e. g., tests yielding 0.5 to 5 units of color, extract with butyl alcohol 5-b. Add 5.0 ml. of the alcohol and invert the tube slowly several times. Centrifuge if necessary to increase the clearness of the alcohol layer. Compare the blue color with the colors of standards in the alcohol.

With samples yielding more than 5 units, compare the colors in aqueous tests with those of aqueous standards.

**11. Dilution method for quantitative results.** In tests that are observed during color development to be strongly positive, e. g., 20 units or more, in which four drops of BQC may be much less than sufficient to combine with all of the phenol, pipet an appropriate proportion of the contents into another tube, make up to 10.0 ml. with color-dilution buffer 1-c, and add two drops more of BQC in the case of unripened cheese or four drops in the case of ripened cheese. With each test, dilute and treat the blank in the corresponding manner. Dilute each strongly positive test thus until the final color is within the range of the standards

<sup>1</sup>For merely detecting underpasteurization, in testing unripened cheese, two drops is sufficient, provided the visual standards are prepared likewise with two drops,

or photometer. Allow 30 minutes for color development after the last addition of BQC, and make the reading at the end of the 30-minute period. Multiply, for example, by 2 for a 5+5 dilution, 10 for a 1+9 dilution, and 50 for a 1+9 followed by a 2+8 dilution.

Alternatively, to reduce the amount of yellow off color, add two instead of four drops of BQC after each dilution, and allow the color to develop. Then test the completeness of color development by adding a third drop; repeat the dilution procedure until the addition of an extra drop does not cause any further increase in the amount of blue color.

**12. Calculation and evaluation of results.** When using 0.5 gm. of sample and adding a total of 11.0 ml. of liquid, multiply the value of the reading by 1.1 to convert it to units of color or phenol equivalents per 0.25 gm. of cheese. The result may, if desired, be converted to phenol equivalents per 1 gm. by multiplying by 4.4.

**IV. Photometric determination.** To read the color in aqueous solution, use a filter with maximum light transmission in the region of 610 m $\mu$  wave length.

To read the color in butyl alcohol, extract the color as described above. If necessary, centrifuge the sample for 5 minutes to break the emulsion and to remove the moisture suspended in the alcohol layer. A Babcock centrifuge can be adapted for this purpose by making special tube holders as follows: Slice a section  $\frac{1}{4}$  inch thick from a rubber stopper of suitable diameter to fit in the bottom of the centrifuge cup. Glue together two cork stoppers of appropriate diameter, bore through the center a hole of proper size to hold the tube snugly, and insert the double-cork section into the cup. After centrifuging, remove nearly all of the butyl alcohol by means of a pipet with a rubber bulb on the top end. Filter the alcohol into the photometer cell and read with a filter with maximum light transmission in the region of 650 m $\mu$  wave length.

If more than approximately 4 ml. of butyl alcohol is required for the photometer used, conduct the test in a larger tube and extract the color, in both the test and the standards, with the necessary quantity of butyl alcohol rather than with 5 ml. specified above.

**V. Precautions.** The length of time that the crystalline disodium phenyl phosphate and the BQC powder will remain stable can be increased greatly by keeping them in the freezing chamber of a refrigerator, and by keeping them dry.

The glassware, stoppers, and sampling tools should be scrupulously clean, and it is desirable to soak them in hot, running water after cleaning.

The solid barium hydroxide and the barium buffer must be kept stoppered tightly to prevent absorption of carbon dioxide. Phenolic contamination from plastic closures on reagent bottles has been encountered, and therefore the use of plastic closures should be avoided. Rubber stoppers should not be used in flasks in which butyl alcohol is stored. Glass or cork stoppers should be used.

**VI. Modifications for different cheeses.** Different kinds of cheese and cheeses of different ages have different buffering capacities, and therefore some of them require modification of concentrations of the reagents. The modifications of the barium buffer needed to produce optimal pH conditions during incubation (9.85–10.20), and of the precipitant to yield uniformly clear filtrates and to minimize interference during color development under optimal pH conditions (9.3–9.4), are specified in Table 1.

With some samples, especially those of unknown history, slight deviations from the optimal pH range may occur, but such deviations do not very materially affect the results. For example, pH values as low as 9.6 or as high as 10.35 during incubation have



been found to result in an average decrease of not more than 20 percent below the maximum in the quantity of phenol liberated. The use of the 25-11 buffer substrate with samples for which the 27-11 buffer substrate is specified yields pH values not lower than 9.8.

In testing cheese of unknown history or age, information as to the percentage of solids, especially the nonfat solids, is useful as an indication of the correct buffer to use; cheese with a relatively high percentage of nonfat solids generally requires the use of

a relatively concentrated buffer to adjust the pH of the mixture correctly.

For precise quantitative results on unknown samples, adjust the pH to 10.0-10.05 for the incubation.

Cottage cheese curd is heated in the presence of considerable acid during manufacture, and therefore its phosphatase values are comparatively low. Alternatively, to increase the sensitivity of the test on cottage cheese, apply the following modifications: Use a 1.0-gm. sample, 27-11 buffer substrate, 2-hour incubation, and 6.0-0.1 precipitant.

Table I—PHOSPHATASE TEST MODIFICATIONS FOR DIFFERENT KINDS OF CHEESE AND CHEESE OF DIFFERENT AGES

Kind of cheese	Age or extent of curing; other details	Buffer for optimal pH (9.55-10.20)	Precipitant
Cheddar, granular, stirred curd, hard cheese	1 week	25-11	6.0-0.1
	1 week-1½ months	25-11	6.0
	1½-4 months	26-11	6.0
	4 months	27-11	6.0
Washed curd, soaked curd, colby	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
Swiss, gruyere	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
Brick, muenster	1-3 months	26-11	6.0
	3 months	27-11	6.0
	1 week	25-11	6.0-0.1
Edam, gouda	1 week-1 month	25-11	6.0
	1-2 months	25-11	6.0
	2 months	26-11	6.0
Blue mold, blue	1 week	25-11	6.0-0.1
	1 week-1 month	26-11	6.0
	1-4½ months	27-11	6.0
	4½ months	28-11	6.0
Camembert, hamburger	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-2 months	26-11	6.0
Monterey	2 months	27-11	6.0
	1 week	25-11	6.0-0.1
High-moisture jack	1 week-2 months	25-11	6.0
	2 months	26-11	6.0
Provolone, pasta filata	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
Parmesan, reggiano, monte, modena, romano, asiago old	3 months	27-11	6.0
	1 week	25-11	6.0-0.1
	1 week-2 months	26-11	6.0
Asiago fresh	2-6 months	27-11	6.0
	6 months-1 year	28-11	6.0
	1 year	29-11	6.0
Asiago medium	Same as cheddar		
	1 week	25-11	6.0-0.1
Gorgonzola	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
Cottage, cook cheese, koch cheese	Same as blue		
	Dry	25-11	6.0-0.1
Cream cheese	Moist	* 25-11 (9.4-2)	4.5-0.1
	Dry	25-11 (7.4-3)	6.0-0.1
Semi-soft cheese	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
Soft ripened cheese	1 month	25-11	6.0
	1 week	25-11	6.0-0.1
Nokkelost, kaminost, sage cheese	1 week-1 month	25-11	6.0
	1 month	26-11	6.0
	1 week	25-11	6.0-0.1
Pasteurized process, pasteurized process pimleno, pasteurized process with fruits, meats, etc.	1 week-1½ months	25-11	6.0
	1½-4 months	26-11	6.0
	4 months	27-11	6.0
	[Soft, mild	25-11	6.0
Pasteurized process cheese foods; pasteurized process cheese foods with fruits, meats, etc.	[Medium, firm	26-11	6.0
	[Firm, sharp (including swiss, gruyere)	27-11	6.0
Pasteurized process cheese spreads; pasteurized process cheese spreads with fruits, meats, etc.	Same as pasteurized process		
	[Soft, high moisture, including cream spreads	25-11	6.0
Cold-pack, club; cold-pack cheese foods; cold pack cheese foods with fruits, meats, etc.	Less soft, including blue	26-11	6.0
	[Mild to medium flavored, soft	26-11	6.0
	[Sharp, firm	27-11	6.0

\* Grams Ba(OH)<sub>2</sub>·8H<sub>2</sub>O and H<sub>2</sub>BO<sub>3</sub> per liter, respectively.  
 † Grams ZnSO<sub>4</sub>·7H<sub>2</sub>O and CuSO<sub>4</sub>·5H<sub>2</sub>O per 100 ml., respectively.  
 ‡ Grams ZnSO<sub>4</sub>·7H<sub>2</sub>O per 100 ml.  
 § 8 parts of 25-11 buffer plus 2 parts of water.

(R. 62-71; Ex. 10, 11, 12, 13, 58, 59, 60, 62, 252)

§ 19.502 Cheddar cheese for manufacturing identity. Cheddar cheese for manufacturing conforms to the definition and standard of identity prescribed for cheddar cheese by § 19.500, except

that the milk is not pasteurized, and curing is not required.

§ 19.505 Washed curd cheese, soaked curd cheese; identity. (a) Washed curd cheese, soaked curd cheese, is the food prepared from milk and other ingredients specified in this section, by the pro-

cedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 42 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500. (c) If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and regulate the separation of whey and curd. The whey is drained off, and the curd is matted into a cohesive mass. The mass is cut into slabs, which are so piled and handled as to promote the drainage of whey and the development of acidity. The slabs are then cut into pieces, cooled in water, and soaked therein until the whey is partly extracted and water is absorbed. The curd is drained, salted, stirred, and pressed into forms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of washed curd cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section: (1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes or for a time and at a temperature equivalent thereto in phosphatase destruction. Washed curd cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in § 19.500 (e).

§ 19.507 Washed curd cheese for manufacturing; identity. Washed curd cheese for manufacturing conforms to the definition and standard of identity prescribed for washed curd cheese by § 19.505, except that the milk is not pasteurized, and curing is not required.

§ 19.510 Colby cheese; identity. (a) Colby cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by



another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 40 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and regulate the separation of whey and curd. A part of the whey is drained off, and the curd is cooled by adding water, the stirring being continued so as to prevent the pieces of curd from matting. The curd is drained, salted, stirred, further drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of colby cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes or for a time and at a temperature equivalent thereto in phosphatase destruction. Colby cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in § 19.500 (e).

§ 19.512 *Colby cheese for manufacturing; identity.* Colby cheese for manufacturing conforms to the definition and standard of identity prescribed for colby cheese by § 19.510, except that the milk is not pasteurized, and curing is not required.

§ 19.535 *Granular cheese, stirred curd cheese; identity.* (a) Granular cheese, stirred curd cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the

cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 39 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and regulate the separation of whey and curd. A part of the whey is drained off. The curd is then alternately stirred and drained to prevent matting and to remove whey from curd. The curd is then salted, stirred, drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of granular cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes or for a time and at a temperature equivalent thereto in phosphatase destruction. Granular cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in § 19.500 (e).

§ 19.537 *Granular cheese for manufacturing; identity.* Granular cheese for manufacturing conforms to the definition and standard of identity prescribed for granular cheese by § 19.535, except that the milk is not pasteurized, and curing is not required.

§ 19.540 *Swiss cheese, emmentaler cheese; identity.* (a) Swiss cheese, emmentaler cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It has holes, or eyes, developed throughout the cheese. It contains not more

than 41 percent of moisture, and its solids contain not less than 43 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). It is not less than 60 days old.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The acidity of the whey at this point, calculated as lactic acid, does not exceed 0.13 percent. The curd is transferred to hoops or forms and pressed until the desired shape and firmness are obtained. The cheese is then salted by immersing it in a saturated salt solution for about 3 days. It is then held at a temperature of about 50° F. to 60° F. for a period of 5 to 10 days, after which it is held at a temperature of about 75° F. until it is approximately 30 days old, or until the so-called eyes form. Salt, or a solution of salt in water, is added to the surface of the cheese at some time during the curing process. The cheese is then stored at a lower temperature for further curing. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of swiss cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto cream or skim milk.

§ 19.542 *Swiss cheese for manufacturing; identity.* Swiss cheese for manufacturing conforms to the definition and standard of identity prescribed for swiss cheese by § 19.540, except that the holes, or eyes, have not developed throughout the entire cheese.

§ 19.543 *Gruyere cheese; identity.* (a) Gruyere cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 39 percent of moisture, and its solids contain not less than 45 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). It contains small holes, or eyes. It has a mild flavor, due in part to the growth of surface-curing agents. It is not less than 90 days old.



(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The curd is transferred to hoops or forms, and pressed until the desired shape and firmness are obtained. The cheese is surface-salted while held at a temperature of 48° F. to 54° F. for a few days. It is soaked for 1 day in a saturated salt solution. It is then held for 3 weeks in a salting cellar and wiped every 2 days with brine cloth to insure growth of biological curing agents on the rind. It is then removed to a heating room and held at progressively higher temperatures, finally reaching 65° F., with a relative humidity of 85 to 90 percent, for several weeks, during which time small holes, or so-called eyes, form. The cheese is then stored at a lower temperature for further curing. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of gruyere cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto cream or skim milk.

§ 19.545 *Brick cheese; identity.* (a) Brick cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 44 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, is brought to a temperature of about 88° F. and subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into cubes with sides ap-

proximately  $\frac{3}{8}$ -inch long, and stirred and heated so that the temperature rises slowly to about 96° F. The stirring is continued until the curd is sufficiently firm. Part of the whey is then removed, and the mixture diluted with water or salt brine to control the acidity. The curd is transferred to forms, and drained. During drainage it is pressed and turned. After drainage the curd is salted, and the biological curing agents characteristic of brick cheese are applied to the surface. The cheese is then cured to develop the characteristics of brick cheese. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of brick cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:  
(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. Brick cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 5 micrograms when tested by the method prescribed in § 19.500 (e).

§ 19.547 *Brick cheese for manufacturing; identity.* Brick cheese for manufacturing conforms to the definition and standard of identity prescribed for brick cheese by § 19.545, except that the milk is not pasteurized, and curing is not required.

§ 19.550 *Muenster cheese, munster cheese; identity.* (a) Muenster cheese, munster cheese, is the food prepared from pasteurized milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 46 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c).

(b) Milk, which is pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. After coagulation the mass is divided into small portions, stirred, and heated, with or without di-

lution with water or salt brine, so as to promote and regulate the separation of whey and curd. The curd is transferred to forms permitting drainage of the whey. During drainage the curd may be pressed and turned. After drainage the curd is removed from the forms and is salted. The surface of the cheese may be rubbed with vegetable oil. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of muenster cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. Muenster cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in § 19.500 (e).

§ 19.555 *Edam cheese; identity.* (a) Edam cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 45 percent of moisture, and its solids contain not less than 40 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days. Edam cheese is made in ball or loaf shapes, and the surface is covered with a red-colored paraffin or other tightly adhering coating, colored red.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. After coagulation the mass is cut into small cube-shaped pieces with sides approximately  $\frac{3}{8}$ -inch long. The mass is stirred and heated to about 90° F., and so handled by further stirring, heating, dilution with water or salt brine, and salting as to promote and regulate the separation of curd and whey. When the de-



sired curd is obtained, it is transferred to forms permitting drainage of whey. During drainage the curd is pressed and turned. After drainage the curd is removed from the forms and is salted and cured. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of edam cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes or for a time and at a temperature equivalent thereto in phosphatase destruction. Edam cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in § 19.500 (e).

§ 19.560 *Gouda cheese; identity.* Gouda cheese conforms to the definition and standard of identity prescribed for edam cheese by § 19.555, except that the fat content of its solids is not less than 46 percent. It is made in the shape of a compressed sphere, in which the compressed sides are parallel and flat. The surface may or may not be covered with red-colored paraffin or similar tightly adhering coating.

§ 19.565 *Blue cheese; identity.* (a) Blue cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by the presence of bluish-green mold throughout the cheese. It contains not more than 46 percent moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). It is not less than 60 days old.

(b) Milk, which may be pasteurized or clarified or both, which may be warmed, and which may be homogenized, is subjected to the action of harmless lactic-acid producing bacteria, present in such milk or added thereto. Harmless artificial green or blue coloring in a quantity which neutralizes any natural yellow coloring in the curd may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into smaller portions and allowed to stand for a time. The mixed curd and

whey is placed in forms permitting further drainage. While being placed in forms, spores of the mold *Penicillium roquefortii* are added. The forms are turned several times during drainage. When sufficiently drained, the shaped curd is removed from the forms and salted with dry salt or brine. Perforations are then made in the shaped curd, and it is held at a temperature of approximately 50° F., at 90 to 95 percent relative humidity, until the characteristic mold growth has developed. During storage the surface of the cheese may be scraped to remove surface growth of undesirable microorganisms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of blue cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk.

(2) Such milk may be bleached by the use of benzoyl peroxide or a mixture of benzoyl peroxide with potassium alum, calcium sulfate, and magnesium carbonate; but the weight of the benzoyl peroxide is not more than 0.002 percent of the weight of the milk being bleached, and the weight of the potassium alum, calcium sulfate, and magnesium carbonate, singly or combined, is not more than six times the weight of the benzoyl peroxide used. If milk is bleached in this manner, vitamin A is added to the curd in such quantity as to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

(3) Such milk may be adjusted by separating part of the fat therefrom or by adding one or more of the following: cream, cream which has been treated in the manner provided in subparagraph (2) of this paragraph, concentrated skim milk, nonfat dry milk solids, water sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.567 *Gorgonzola cheese; identity.*

(a) Gorgonzola cheese is the food prepared from cow's milk or goat's milk or mixtures of these, and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by the presence of bluish-green mold throughout the cheese. It is made in loaves weighing between 14 and 17 pounds. It contains not more than 42 percent moisture, and its solids contain not less than 50 percent milk fat, as determined by the methods prescribed in § 19.500 (c). It is not less than 90 days old.

(b) Milk, which may be pasteurized or clarified or both, which may be warmed, and which may be homogenized, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial green or blue coloring in a quantity which neutralizes any natural

yellow coloring in the curd may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into smaller portions and allowed to stand for a time. The mixed curd and whey is placed into forms permitting further drainage. While being placed in forms, spores of the mold *Penicillium glaucum* are added. The forms are turned several times during drainage. When sufficiently drained, the shaped curd is removed from the forms and salted with dry salt or brine. Perforations are then made in the shaped curd and it is held at a temperature of approximately 50° F., at 90 to 95 percent relative humidity, until the characteristic mold growth has developed. During storage the surface of the cheese is scraped, if necessary, to remove surface growth of undesirable microorganisms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of gorgonzola cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or mixtures of these.

(2) Such milk may be bleached by the use of benzoyl peroxide or mixture of benzoyl peroxide with potassium alum, calcium sulfate, and magnesium carbonate, but the weight of the benzoyl peroxide is not more than 0.002 percent of the weight of the milk being bleached, and the weight of the potassium alum, calcium sulfate, and magnesium carbonate, singly or combined, is not more than six times the weight of the benzoyl peroxide used. If milk is bleached in this manner, vitamin A is added to the curd in such quantity as to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

(3) Such milk may be adjusted by separating part of the fat therefrom or by adding one or more of the following: (In the case of cow's milk) cream, cream which has been treated in the manner provided in subparagraph (2) of this paragraph, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products obtained from goat's milk; water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.570 *Roquefort cheese, sheep's milk blue-mold cheese, blue-mold cheese from sheep's milk; identity.* (a) Roquefort cheese, sheep's milk blue-mold cheese, blue-mold cheese from sheep's milk, is the food prepared from sheep's milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by the presence of



bluish-green mold throughout the cheese. It contains not more than 45 percent moisture, and its solids contain not less than 50 percent milk fat, as determined by the methods prescribed in § 19.500 (c). It is not less than 60 days old.

(b) Milk, which may be pasteurized, and which may be warmed is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet is added to set the milk to a semisolid mass. The mass is cut into smaller portions and allowed to stand for a time. The mixed curd and whey is placed in forms permitting further drainage of whey. Spores of the mold *Penicillium roquefortii* are added. The forms are turned several times during drainage. When sufficiently drained, the shaped curd is removed from the forms and salted with dry salt or brine. Perforations are then made in the shaped curd, and it is held at a temperature of approximately 50° F., with relative humidity of 90 to 95 percent, until the characteristic mold growth has developed. During storage the surface of the cheese is scraped, if necessary, to remove surface growth of undesirable microorganisms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of roquefort cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means sheep's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto sheep's milk cream or skimmed sheep's milk.

§ 19.575 *Limburger cheese; identity.*

(a) Limburger cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 50 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, limburger cheese is held at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, is brought to a temperature of about 92° F. and subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately  $\frac{1}{2}$ -inch long. After a few minutes the mass is stirred and heated, gradually raising the temperature to 96° F. to 98° F. The curd is then allowed to settle, most of the whey is drained off, and the remaining curd

and whey dipped into molds. During drainage the curd may be pressed. It is turned at regular intervals. After drainage the curd is cut into pieces of desired size and dry-salted at intervals for 24 to 48 hours. The cheese is then cured with frequent applications of a weak brine solution to the surface, until the proper growth of surface-curing organisms is obtained. It is then wrapped and held in storage for development of as much additional flavor as is desired. When made from pasteurized milk, the milk is brought to a temperature of 89° F. to 90° F. after pasteurization. A culture of harmless lactic-acid-producing bacteria is added. Calcium chloride may be added, as to raw milk. The procedure then is the same as with raw milk, except that heating is to 94° F. After most of the whey is drained off, salt brine at a temperature of 66° F. to 70° F. is added, so that the pH of the curd is about 4.8. The mixed curd, whey, and brine is dipped into molds and the same procedure followed as when raw milk is used. Whether pasteurized or unpasteurized milk is used, a harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of limburger cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction.

§ 19.580 *Monterey cheese; identity.*

(a) Monterey cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. Monterey cheese is made in sizes not exceeding 12 pounds in weight. It contains not more than 44 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c).

(b) Milk, which is pasteurized, and which may be clarified, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and

regulate the separation of whey and curd. Part of the whey is drained off, and water or salt brine may be added. The curd is drained and placed in a muslin or sheeting cloth, formed into a ball, and pressed; or it is placed in a cheese hoop and pressed. Later, the cloth bandage is removed, and the cheese is covered with paraffin or dipped in vegetable oil, and rice flour sprinkled on the surface. A harmless preparation of enzymes of animal or plant origin, capable of aiding in the curing or development of flavor of monterey cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. Monterey cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in § 19.500 (e).

§ 19.585 *High-moisture jack cheese; identity.* High-moisture jack cheese conforms to the definition and standard of identity prescribed for monterey cheese by § 19.580, except that its moisture content is not less than 44 percent, but less than 50 percent.

§ 19.590 *Provolone cheese, pasta filata cheese; identity.* (a) Provolone cheese, pasta filata cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It has a stringy texture, and may be made in several shapes. It contains not more than 45 percent of moisture, and its solids contain not less than 45 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is held at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial blue or green coloring in a quantity which neutralizes any natural yellow coloring in the curd may be added. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of



the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut, stirred, and heated so as to promote and regulate the separation of whey from the curd. The whey is drained off, and the curd is matted and cut, immersed in hot water, and kneaded and stretched until it is smooth and free from lumps. Then it is cut and molded. During the molding the curd is kept sufficiently warm to cause proper sealing of the surface. The molded curd is then firmed by immersion in cold water, salted in brine, and dried. Some shapes may be encased in ropes or twine before drying. Provolone cheese may be smoked. It is given some additional curing and covered with paraffin or similar wax. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of provolone cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. Provolone cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in § 19.500 (e).

(d) The name "Provolone cheese" ("Pasta filata cheese"), may include the common name of the shape of the cheese, such as "Salami provolone." If provolone cheese is not smoked, the name includes the words "Not smoked."

§ 19.591 *Caciocavallo siciliano cheese; identity.* (a) Caciocavallo siciliano cheese is the food prepared from cow's milk or sheep's milk or goat's milk or mixtures of two or all of these and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It has a stringy texture, and is made in oblong shapes. It contains not more than 40 percent of moisture, and its solids contain not less than 42 percent milk fat, as determined by the methods prescribed in § 19.500 (c). It is cured for not less than 90 days at a temperature of not less than 35° F.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial blue or green coloring

in a quantity which neutralizes any natural yellow coloring in the curd may be added. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut, stirred, and heated so as to promote and regulate the separation of whey from the curd. The whey is drained off, and the curd is removed to another vat containing hot whey, in which it is soaked for several hours. This whey is withdrawn, the curd is allowed to mat, and is cut into blocks. These are washed in hot whey until the desired elasticity is obtained. The curd is removed from the vat, drained, pressed into oblong forms, dried, and salted in brine, and cured. It may be paraffined. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of caciocavallo siciliano cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water in a quantity sufficient to reconstitute any such concentrated or dried products used.

(d) When caciocavallo siciliano cheese is made solely from cow's milk, the name of such cheese is "Caciocavallo siciliano cheese." When made from sheep's milk or goat's milk or mixtures of these, or one or both of these with cow's milk, the name is followed by the words "made from -----," the blank being filled in with the name or names of the milks used, in order of predominance by weight.

§ 19.595 *Parmesan cheese, reggiano cheese; identity.* (a) Parmesan cheese, reggiano cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by a granular texture and a hard and brittle rind. It grates readily. It contains not more than 32 percent of moisture, and its solids contain not less than 32 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). It is cured for not less than 14 months.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria,

present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless artificial coloring may be added. The mass is cut into pieces no larger than wheat kernels, heated, and stirred until the temperature reaches between 115° F. and 125° F. The curd is allowed to settle and is then removed from the kettle or vat, drained for a short time, placed in hoops, and pressed. The pressed curd is removed and salted in brine, or dry-salted. The cheese is cured in a cool, ventilated room. The rind of the cheese may be coated or colored. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of parmesan cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.610 *Romano cheese; identity.*

(a) Romano cheese is the food prepared from cow's milk or sheep's milk or goat's milk or mixtures of two or all of these and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It grates readily, and has a granular texture and a hard and brittle rind. It contains not more than 34 percent of moisture, and its solids contain not less than 38 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). It is cured for not less than 5 months.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial blue or green coloring in a quantity which neutralizes any natural yellow coloring in the curd may be added. Rennet, rennet paste or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles no larger than corn kernels, stirred, and heated to a temperature of about 120° F. The curd is allowed to settle to the bottom of the kettle or vat, and is then removed and drained for a short time, packed in forms or hoops, and pressed. The pressed curd is salted by immersing in brine for



about 24 hours and is then removed from the brine and the surface allowed to dry. It is then alternately rubbed with salt and washed at intervals. It may be perforated with needles. It is finally dry-cured. During curing it is turned and scraped. The surface may be rubbed with vegetable oil. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of romano cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water in a quantity sufficient to reconstitute any such concentrated or dried products used.

(d) When romano cheese is made solely from cow's milk the name of such cheese is "Romano cheese made from cow's milk" and may be preceded by the word "Vaccino" (or "Vacchino"); when made solely from sheep's milk, the name is "Romano cheese made from sheep's milk," and may be preceded by the word "Pecorino"; when made solely from goat's milk, the name is "Romano cheese made from goat's milk" and may be preceded by the word "Caprino"; and when a mixture of two or all of the milks specified in this section is used, the name of the cheese is "Romano cheese made from \_\_\_\_\_" the blank being filled in with the names of the milks used, in order of predominance by weight.

§ 19.615 *Asiago fresh cheese, asiago soft cheese; identity.* (a) Asiago fresh cheese, asiago soft cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 45 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). It is cured for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial blue or green coloring in a quantity which neutralizes any natural yellow coloring in the curd may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The

mass is cut, stirred, and heated to promote and regulate separation of the whey from the curd. The whey is drained off. When the curd is sufficiently firm, it is removed from the kettle or vat, further drained for a short time, packed into hoops, and pressed. The pressed curd is salted in brine and cured in a well-ventilated room. During curing the surface of the cheese is occasionally rubbed with a vegetable oil. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of asiago fresh cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.620 *Asiago medium cheese; identity.* Asiago medium cheese conforms to the definition and standard of identity prescribed by § 19.615 for asiago fresh cheese, except that it contains not more than 35 percent moisture, its solids contain not less than 45 percent of milk fat, and it is cured for not less than 6 months.

§ 19.625 *Asiago old cheese; identity.* Asiago old cheese conforms to the definition and standard of identity prescribed by § 19.615 for asiago fresh cheese, except that it contains not more than 32 percent moisture, its solids contain not less than 42 percent of milk fat, and it is cured for not less than 1 year.

§ 19.635 *Cook cheese, koch kaese; identity.* (a) Cook cheese, koch kaese, is the food prepared from skim milk and other ingredients specified in this section by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 80 percent moisture as determined by the method therefor prescribed in § 19.500 (c). When tested for phosphatase by the method prescribed in § 19.500 (e), 0.25 gm. of cook cheese shows a phenol equivalent of not more than 3 micrograms.

(b) Skim milk, or the optional dairy ingredients specified in paragraph (c) of this section, which may be pasteurized, and which may be warmed, are subjected to the action of harmless lactic-acid-producing bacteria, present in such dairy ingredients or added thereto. A culture of a harmless white mold may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of milk) may be added to aid in setting the mix to a semisolid mass. The

mass is cut, stirred, and heated, with continued stirring, so as to separate the curd and whey. The whey is drained from the curd, and the curd is cured for 2 or 3 days. It is then heated to a temperature of not less than 180° F. until the hot curd will drop from a ladle with a consistency like that of honey. The hot cheese is filled into packages and cooled. Pasteurized cream, salt, or caraway seed, or any mixture of two or more of these may be added.

(c) The optional dairy ingredients referred to in paragraph (b) of this section are: Skim milk or concentrated skim milk or nonfat dry milk solids or a mixture of any two or more of these, with water in a quantity not in excess of that sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(d) For the purposes of this section, "skim milk" means cow's milk from which the milk fat has been separated.

§ 19.637 *Sap sago cheese; identity.* (a) Sap sago cheese is the food prepared from the skim milk of cows and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. It has a pale-green color, and is made in the shape of a truncated cone. It contains not more than 38 percent of moisture, as determined by the method prescribed in § 19.500 (c).

(b) Skim milk is allowed to become sour, and is heated to boiling temperature, with stirring. Cold buttermilk may be added. Sufficient sour whey is added to precipitate the casein. The curd is removed, spread out in boxes, and pressed, and while under pressure is allowed to drain and ferment. It is ripened for not less than 5 weeks. The ripened curd is dried and ground, salt and dried clover of the species *Mellilotus coerulea* are added. The mixture is shaped into truncated cones. It is then cured for not less than 5 months.

§ 19.639 *Gammelost cheese; identity.* (a) Gammelost cheese is the food prepared from the skim milk of cows and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. It contains not more than 52 percent of moisture, as determined by the method prescribed in § 19.500 (c).

(b) Skim milk, which may be pasteurized, is subjected to the action of harmless lactic-acid-producing bacteria, present in such skim milk or added thereto. The development of acidity is continued until the skim milk coagulates to a semisolid mass. The mass is stirred and heated until a temperature of about 145° F. is reached, and is held at that temperature for not less than ½ hour. The whey is drained off and the curd removed and placed in forms and pressed. The shaped curd is placed in whey and heated for 3 or 4 hours. It is then removed from the whey and may again be pressed. It is then stored under conditions suitable for curing.

§ 19.650 *Hard cheeses; identity.* (a) The cheeses for which definitions and standards of identity are prescribed by this section are hard cheeses for which



specifically applicable definitions and standards of identity are not prescribed by other sections of this part. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain not more than 39 percent of moisture, and their solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, with or without other harmless flavor-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet, rennet paste or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into small particles, stirred, and heated. The curd is separated from the whey, drained, and shaped into forms, and may be pressed. The curd is salted at some stage of the manufacturing process. The shaped curd may be cured. The rind may be coated with paraffin or rubbed with vegetable oil. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of hard cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used. Harmless flavor-producing microorganisms may be added, and curing may be conducted under suitable conditions for the development of biological curing agents.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom, or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water, in a quantity sufficient to reconstitute any concentrated or dried products used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. A hard cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in § 19.500 (e).

(d) The name of each hard cheese for which a definition and standard of identity is prescribed by this section is "Hard cheese," preceded or followed by:

(1) The specific common or usual name of such hard cheese, if any such

name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "made from \_\_\_\_\_," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.655 *Semisoft cheeses; identity; label statement of optional ingredients.*

(a) The cheeses for which definitions and standards of identity are prescribed by this section are semisoft cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of this part. They are made from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain more than 39 percent, but not more than 50 percent, of moisture, and their solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless artificial coloring may be added. After coagulation the mass is so treated as to promote and regulate the separation of whey and curd. Such treatment may include one or more of the following: cutting, stirring, heating, dilution with water or brine. The whey, or part of it, is drained off, and the curd is collected and shaped. It may be placed in forms, and may be pressed. Harmless flavor-producing microorganisms may be added. It may be cured in a manner to promote the growth of biological curing agents. Salt may be added during the procedure. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of semisoft cheese may be added, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom, or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's

milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water, in a quantity sufficient to reconstitute any concentrated or dried products used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. A semisoft cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 5 micrograms when tested by the method prescribed in § 19.500 (e).

(d) The name of each semisoft cheese for which a definition and standard of identity is prescribed by this section is "Semisoft cheese," preceded or followed by:

(1) The specific common or usual name of such semisoft cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "made from \_\_\_\_\_," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.660 *Semisoft part-skim cheeses; identity; label statement of optional ingredients.*

(a) The cheeses for which definitions and standards of identity are prescribed by this section are semisoft part-skim cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of this part. They are made from partly skimmed milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain not more than 50 percent of moisture, and their solids contain not less than 45 percent, but less than 50 percent, of milk fat, as determined by the methods set forth in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride, in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless artificial coloring may be added. After coagulation the mass is so treated as to promote and regulate the separation of whey and curd. Such treatment may include one or more of the following: cutting, stirring, heating, dilution with [salt] water or brine. The whey, or part of it, is drained off, and the curd is collected and shaped. It may be placed



in forms, and it may be pressed. Harmless flavor-producing microorganisms may be added. It may be cured in a manner to promote the growth of biological curing agents. Salt may be added during the procedure. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of semisoft part-skim cheese may be added in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water, in a quantity sufficient to reconstitute any such concentrated or dried products used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. A semisoft part-skim cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 5 micrograms when tested by the method prescribed in § 19.500 (e).

(d) The name of each semisoft part-skim cheese for which a definition and standard of identity is prescribed by this section is "Semisoft part-skim cheese," preceded or followed by:

(1) The specific common or usual name of such semisoft cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "made from \_\_\_\_\_," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.665 *Soft ripened cheeses; identity; label statement of optional ingredients.* (a) The cheeses for which definitions and standards of identity are prescribed by this section are soft ripened cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of this part. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. Their solids contain not less than 50 percent of milk fat, as determined by the method prescribed therefor in § 19.500 (c). If the milk used is not pasteurized, the cheese so made is cured at a temperature

of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless artificial coloring may be added. After coagulation the mass is so treated as to promote and regulate the separation of whey and curd. Such treatment may include one or more of the following: cutting, stirring, heating, dilution with water or brine. The whey, or part of it, is drained off, and the curd is collected and shaped. It may be placed in forms, and may be pressed. Harmless flavor-producing microorganisms may be added. It is cured under conditions suitable for development of biological curing agents on the surface of the cheese, and the curing is conducted so that the cheese cures from the surface toward the center. Salt may be added during the procedure. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of soft ripened cheeses may be added, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water, in a quantity sufficient to reconstitute any such concentrated or dried products used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction.

(d) The name of each soft ripened cheese for which a definition and standard of identity is prescribed by this section is "Soft ripened cheese," preceded or followed by:

(1) The specific common or usual name of such soft ripened cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "made from \_\_\_\_\_," the blank being filled in with the name or names of the

milk used, in order of predominance by weight.

§ 19.670 *Spiced cheeses; identity; label statement of optional ingredients.*

(a) The cheeses for which definitions and standards of identity are prescribed by this section are spiced cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of this part. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. Their solids contain not less than 50 percent of milk fat as determined by the method therefor prescribed in § 19.500 (c). They contain one or a mixture of two or more spices, except any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety, in an amount not less than 0.015 ounce per pound of cheese, and may contain spice oils. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet, rennet paste, or extract of rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is divided into smaller portions, and so handled by stirring, heating, and diluting with water or salt brine as to promote and regulate the separation of whey and curd. The whey is drained off. The curd is removed, and may be further drained. The curd is then shaped into forms, and may be pressed. At some time during the procedure, spices are added so as to be evenly distributed through the finished cheese. Spice oils may be added. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of spiced cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used. Harmless flavor-producing microorganisms may be added, and curing may be conducted under suitable conditions for the development of biological curing agents.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water, in a quantity sufficient to reconstitute any such concentrated or dried products used.



(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or for a time and at a temperature equivalent thereto in phosphatase destruction. Spiced cheeses shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in § 19.500 (e).

(d) The name of each spiced cheese for which a definition and standard of identity is prescribed by this section is "Spiced cheese," preceded or followed by:

(1) The specific common or usual name of such spiced cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "made from \_\_\_\_\_," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.675 *Part-skim spiced cheeses; identity; label statement of optional ingredients.* Part-skim spiced cheeses conform to the definition and standard of identity, and are subject to the requirements for label statement of optional ingredients, prescribed for spiced cheeses by § 19.670, except that their solids contain less than 50 percent, but not less than 20 percent, of milk fat.

§ 19.680 *Hard grating cheeses; identity; label statement of optional ingredients.* (a) The cheeses for which definitions and standards of identity are prescribed by this section are hard grating cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of this part. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain not more than 34 percent of moisture, and their solids contain not less than 32 percent of milk fat, as determined by the methods prescribed in § 19.500 (c). Hard grating cheeses are cured for not less than 6 months.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless artificial coloring may be added. The mass is cut into small particles, stirred, and heated. The curd is separated from the whey, drained, shaped into forms, pressed, salted, and cured. The rind may be colored or

rubbed with vegetable oil or both. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of hard grating cheese may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or (in the case of cow's milk) by adding one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding products from sheep's milk; water, in a quantity sufficient to reconstitute any such concentrated or dried products used.

(d) The name of each hard grating cheese for which a definition and standard of identity is prescribed by this section is "Hard grating cheese," preceded or followed by:

(1) The specific common or usual name of such hard grating cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "made from \_\_\_\_\_," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.685 *Skim-milk cheese for manufacturing; identity.* (a) Skim-milk cheese for manufacturing is the food prepared from skim milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 50 percent of moisture, as determined by the method therefor prescribed in § 19.500 (c). It is coated with blue-colored paraffin or other tightly adhering coating, colored blue.

(b) Skim milk or the optional dairy ingredients specified in paragraph (c) of this section, which may be pasteurized, and which may be warmed, are subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated with continued stirring, as to promote and regulate the separation of whey and curd. The whey is drained off, and the curd is matted

into a cohesive mass. Proteins from the whey may be incorporated. The mass is cut into slabs which are so pilled and handled as to promote the drainage of whey and the development of acidity. The slabs are then cut into pieces, which may be rinsed by pouring or sprinkling water over them, with free and continuous drainage; but the duration of such rinsing is so limited that only the whey on the surface of such pieces is removed. The curd is salted, stirred, further drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin capable of aiding in the curing or development of flavor of skim-milk cheese for manufacturing may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) The optional dairy ingredients referred to in paragraph (b) of this section are: Skim milk or concentrated skim milk or nonfat dry milk solids or a mixture of any two or more of these, with water in a quantity not in excess of that sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(d) For the purposes of this section, "skim milk" means cow's milk from which the milk fat has been separated.

§ 19.750 *Pasteurized process cheese; identity; label statement of optional ingredients.* (a) (1) Pasteurized process cheese is the food prepared by comminuting and mixing, with the aid of heat, one or more cheeses of the same or two or more varieties, except cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, cook cheese, hard grating cheese, semisoft part-skim cheese, part-skim spiced cheese, and skim-milk cheese for manufacturing, with an emulsifying agent prescribed by paragraph (c) of this section, into a homogeneous plastic mass. One or more of the optional ingredients designated in paragraph (d) (1), (2), (3), (4), (5), and (6) of this section may be used.

(2) During its preparation, pasteurized process cheese is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in § 19.500 (e), the phenol equivalent of 0.25 gm. of pasteurized process cheese is not more than 3 micrograms.

(3) (i) The moisture content of a pasteurized process cheese made from a single variety of cheese is not more than 1 percent greater than the maximum moisture content prescribed by the definition and standard of identity, if any there be, for the variety of cheese used; but in no case is more than 43 percent, except that the moisture content of pasteurized process washed curd cheese or pasteurized process colby cheese is not more than 40 percent; the moisture content of pasteurized process swiss cheese or pasteurized process gruyere cheese is not more than 44 percent; and the moisture content of pasteurized process limburger cheese is not more than 51 percent.

(ii) The fat content of the solids of a pasteurized process cheese made from a



single variety of cheese is not less than the minimum prescribed by the definition and standard of identity, if any there be, for the variety of cheese used, but in no case is less than 47 percent; except that the fat content of the solids of pasteurized process swiss cheese is not less than 43 percent, and the fat content of the solids of pasteurized process gruyere cheese is not less than 45 percent.

(4) (i) The moisture content of a pasteurized process cheese made from two or more varieties of cheese is not more than 1 percent greater than the arithmetical average of the maximum moisture contents prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used; but in no case is the moisture content more than 43 percent, except that the moisture content of a pasteurized process cheese made from two or more of the varieties cheddar cheese, washed curd cheese, colby cheese, and granular cheese is not more than 40 percent, and the moisture content of a mixture of swiss cheese and gruyere cheese is not more than 44 percent.

(ii) The fat content of the solids of a pasteurized process cheese made from two or more varieties of cheese is not less than the arithmetical average of the minimum fat contents prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used, but in no case is less than 47 percent, except that the fat content of the solids of a pasteurized process gruyere cheese made from a mixture of swiss cheese and gruyere cheese is not less than 45 percent.

(5) Moisture and fat are determined by the methods prescribed in § 19.500 (c).

(6) The weight of each variety of cheese in a pasteurized process cheese made from two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 10 percent of the total weight of both, and the weight of limburger cheese is not less than 5 percent of the total weight of both. The weight of each variety of cheese in a pasteurized process cheese made from three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 5 percent of the total weight of all, and the weight of limburger cheese is not less than 3 percent of the total weight of all. These limits do not apply to the quality of cheddar cheese, washed curd cheese, colby cheese and granular cheese in mixtures which are designated as American cheese as prescribed in paragraph (e) (2) (ii) of this section. Such mixtures are considered as one variety of cheese for the purposes of this subparagraph.

(7) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, and swiss cheese for manufacturing are considered as cheddar cheese, washed curd cheese,

colby cheese, granular cheese, brick cheese, and swiss cheese, respectively.

(b) Pasteurized process cheese may be smoked, or the cheese or cheeses from which it is made may be smoked before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The emulsifying agent referred to in paragraph (a) of this section is one or any mixture of two or more of the following: Monosodium phosphate, disodium phosphate, dipotassium phosphate, trisodium phosphate, sodium metaphosphate (sodium hexametaphosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, and sodium potassium tartrate, in such quantity that the weight of the solids of such emulsifying agents is not more than 3 percent of the weight of the pasteurized process cheese.

(d) The optional ingredients referred to in paragraph (a) of this section are:

(1) An acidifying agent consisting of one or any mixture of two or more of the following: a vinegar, lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the pasteurized process cheese is not below 5.3.

(2) Cream, in such quantity that the weight of the fat derived therefrom is less than 5 percent of the weight of the pasteurized process cheese.

(3) Water.

(4) Salt.

(5) Harmless artificial coloring.

(6) Spices or flavorings, other than any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety.

(e) The name of a pasteurized process cheese for which a definition and standard of identity is prescribed by this section is as follows:

(1) In case it is made from a single variety of cheese, its name is "Pasteurized process \_\_\_\_\_ cheese," the blank being filled in with the name of the variety of cheese used.

(2) In case it is made from two or more varieties of cheese, its name is "Pasteurized process \_\_\_\_\_ and \_\_\_\_\_ cheese," or "Pasteurized process \_\_\_\_\_ blended with \_\_\_\_\_ cheese," or "Pasteurized process blend of \_\_\_\_\_ and \_\_\_\_\_ cheese," the blanks being filled in with the names of the varieties of cheeses used, in order of predominance by weight; except that:

(i) In case it is made from gruyere cheese and swiss cheese, and the weight of gruyere cheese is not less than 25 percent of the weight of both, it may be designated "Pasteurized process gruyere cheese"; and

(ii) In case it is made of cheddar cheese, washed curd cheese, colby cheese, or granular cheese or any mixture of two or more of these, it may be designated "Pasteurized process American cheese"; or when cheddar cheese, washed curd cheese, colby cheese or granular cheese or any mixture of two or more of these is combined with other varieties of cheese in the cheese ingredient any of such cheeses or such mixture may be designated as "American cheese."

(f) (1) If the pasteurized process cheese is smoked, or made from cheeses which have been smoked, the word "smoked" shall precede or follow the name of the pasteurized process cheese or name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the term "with added \_\_\_\_\_," the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the term "spiced" or "spice added" or "with added spice," or in lieu of the word "spice" the common or usual name of the spice.

(4) If it contains added flavoring, the label shall bear the term "flavoring added," "with added flavoring," or "flavored with \_\_\_\_\_," the blank being filled in with the common or usual name of the flavoring; if the flavoring is artificial, the word "artificial" shall precede the word "flavoring," or the word "artificially" shall precede the term "flavored with \_\_\_\_\_."

(5) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed or graphic matter.

§ 19.751 *Pasteurized blended cheese; identity; label statement of optional ingredients.* (a) Pasteurized blended cheese conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese by § 19.750, except that:

(1) In mixtures of two or more cheeses, cream cheese or neufchatel cheese may be used.

(2) None of the ingredients prescribed or permitted for pasteurized process cheese by § 19.750 (c) and (d) (1) is used.

(3) In case of mixtures of two or more cheeses containing cream cheese or neufchatel cheese, the moisture content is not more than the arithmetical average of the maximum moisture contents prescribed by the definitions and standards of identity for the varieties of cheeses blended, for which such limits have been prescribed.

(4) The word "process" is replaced by the word "blended" in the name prescribed by § 19.750 (e).

§ 19.755 *Pasteurized process cheese with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Unless a definition and standard of identity specifically applicable is established by another section of this part, a pasteurized process cheese with fruits, vegetables, or meats or mixture of these is a food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese by § 19.750, except that:



(1) Its moisture content may be 1 percent more, and the milk fat content of its solids may be 1 percent less, than the limits prescribed by § 19.750 for moisture and fat in the corresponding pasteurized process cheese.

(2) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized process cheese with fruits, vegetables, or meats is the name prescribed by § 19.750 for the applicable pasteurized process cheese, followed by the term "with \_\_\_\_\_," the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.760 *Pasteurized process pimento cheese; identity.* (a) Pasteurized process pimento cheese is the food which conforms to the definition and standard of identity for pasteurized process cheese with fruits, vegetables, or meats, except that:

(1) Its moisture content is not more than 41 percent, and the fat content of its solids is not less than 49 percent.

(2) The cheese ingredient is cheddar cheese, washed curd cheese, colby cheese, granular cheese or any mixture of two or more of these in any proportion.

(3) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, and granular cheese for manufacturing shall be considered as cheddar cheese, washed curd cheese, colby cheese, and granular cheese, respectively.

(4) The only fruit, vegetable, or meat ingredient is pimentos in such quantity that the weight of the solids thereof is not less than 0.2 percent of the weight of the finished pasteurized process pimento cheese.

(5) The optional ingredients designated in § 19.750 (b) and (d) (6) are not used.

§ 19.763 *Pasteurized blended cheese with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Pasteurized blended cheese with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized blended cheese by § 19.751, except that:

(1) Its moisture content may be 1 percent more, and the milk fat content of its solids may be 1 percent less, than the limits prescribed by § 19.751 for moisture and milk fat in the corresponding pasteurized blended cheese.

(2) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized blended cheese with fruits, vegetables, or meats is the name prescribed by § 19.751 for the applicable pasteurized blended cheese, followed by the term "with \_\_\_\_\_," the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.765 *Pasteurized process cheese food; identity; label statement of optional ingredients.* (a) (1) A pasteurized process cheese food is the food prepared by comminuting and mixing, with the aid of heat, one or more of the optional cheese ingredients prescribed in paragraph (c) of this section, with one or more of the optional dairy ingredients prescribed in paragraph (d) of this section, into a homogeneous plastic mass. One or more of the optional ingredients specified in paragraph (e) of this section may be used.

(2) During its preparation, a pasteurized process cheese food is heated for not less than 30 seconds, at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in § 19.500 (e), the phenol equivalent of 0.25 gm. of pasteurized process cheese food is not more than 3 micrograms.

(3) The moisture content of a pasteurized process cheese food is not more than 44 percent, and the fat content is not less than 23 percent.

(4) Moisture and fat are determined by the methods prescribed in § 19.500 (c), except that in determining moisture the loss in weight which occurs in drying for 5 hours, under the conditions prescribed in such method, is taken as the weight of moisture.

(5) The weight of the cheese ingredient prescribed by subparagraph (1) of this paragraph constitutes not less than 51 percent of the weight of the finished pasteurized process cheese food.

(6) The weight of each variety of cheese in a pasteurized process cheese food made with two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 10 percent of the total weight of both. The weight of each variety of cheese in a pasteurized process cheese food made with three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 5 percent of the total weight of all. These limits do not apply to the quantity of cheddar cheese, washed curd cheese, colby cheese, and granular cheese in mixtures which are designated as American cheese as prescribed in paragraph (f) (6) of this section. Such mixtures are considered as one variety of cheese for the purposes of this subparagraph.

(7) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granu-

lar cheese for manufacturing, brick cheese for manufacturing, and swiss cheese for manufacturing are considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, and swiss cheese, respectively.

(b) Pasteurized process cheese food may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional cheese ingredients referred to in paragraph (a) of this section are one or more cheeses of the same or two or more varieties, except cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, cook cheese, and skim-milk cheese for manufacturing, and except that hard grating cheese, semisoft part skim cheese, and part-skim spiced cheese are not used, alone or in combination with each other, as the cheese ingredient.

(d) The optional dairy ingredients referred to in paragraph (a) of this section are cream, milk, skim milk, cheese whey, or any mixture of two or more of these, or any of the foregoing from which part of the water has been removed, and albumin from cheese whey.

(e) The other optional ingredients referred to in paragraph (a) of this section are:

(1) An emulsifying agent consisting of one or any mixture of two or more of the following: Monosodium phosphate, disodium phosphate, dipotassium phosphate, trisodium phosphate, sodium metaphosphate (sodium hexametaphosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, and sodium potassium tartrate, in such quantity that the weight of the solids of such emulsifying agent is not more than 3 percent of the weight of the pasteurized process cheese food.

(2) An acidifying agent consisting of one or any mixture of two or more of the following: a vinegar, lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the pasteurized process cheese food is not below 5.0.

(3) Water.

(4) Salt.

(5) Harmless artificial coloring.

(6) Spices or flavorings other than any which singly or in combination with other ingredients simulate the flavor of cheese of any age or variety.

(f) The label of a pasteurized process cheese food shall bear the common or usual names of the optional ingredients used, as specified in paragraphs (c), (d), and (e) (1), (2), (3), and (4) of this section, and:

(1) If the pasteurized process cheese food is smoked, or made from cheeses which have been smoked, the word "smoked" shall precede or follow the name of the pasteurized process cheese food or the name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "with added \_\_\_\_\_," the



blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "spiced" or "spice added" or "with added spice," or in lieu of the word "spice" the common or usual name of the spice used.

(4) If it contains added flavoring, the label shall bear the statement "flavoring added," "with added flavoring," or "flavored with \_\_\_\_\_," the blank being filled in with the common or usual name of the flavoring used; if the flavoring is artificial, the word "artificial" shall precede the word "flavoring" or the word "artificially" shall precede the statement "flavored with \_\_\_\_\_."

(5) If it contains added artificial coloring, the label shall bear the statement "artificially colored" or "contains artificial color."

(6) If the cheese ingredient contains cheddar cheese, washed curd cheese, colby cheese, granular cheese or any mixture of two or more of these, such cheese or such mixture may be designated as "American cheese."

(g) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.770 *Pasteurized process cheese food with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Pasteurized process cheese food with fruits, vegetables, or meats, or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese food by § 19.765, except that:

(1) Its milk fat content is not less than 22 percent.

(2) It contains one or any mixture of two or more of the following: any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized process cheese food with fruits, vegetables, or meats is "Pasteurized process cheese food with \_\_\_\_\_," the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

(c) If the only vegetable ingredient is pimento, and no meat or fruit ingredient is used, the weight of the solids of such pimentos is not less than 0.2 percent of the weight of the finished food. The name of this food is "Pimento pasteurized process cheese food" or "Pasteurized process pimento cheese food."

§ 19.775 *Pasteurized process cheese spread; identity; label statement of optional ingredients.* (a) (1) Pasteurized process cheese spread is the food pre-

pared by comminuting and mixing, with the aid of heat, one or more of the optional cheese ingredients prescribed in paragraph (c) of this section, with or without one or more of the optional dairy ingredients prescribed in paragraph (d) of this section, with one or more of the emulsifying agents prescribed in paragraph (e) of this section, and with or without one or more of the optional ingredients prescribed by paragraph (f) of this section, into a homogeneous plastic mass, which is spreadable at 70° F.

(2) During its preparation, a pasteurized process cheese spread is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in § 19.500 (e) the phenol equivalent of 0.25 gm. of pasteurized process cheese spread is not more than 3 micrograms.

(3) The moisture content of a pasteurized process cheese spread is more than 44 percent but not more than 60 percent, and the milk fat content is not less than 20 percent.

(4) Moisture and fat are determined by the methods described in § 19.500 (c), except that in determining moisture the loss in weight which occurs in drying for 5 hours under the conditions prescribed in such method, is taken as the weight of the moisture.

(5) The weight of the cheese ingredient referred to in subparagraph (1) of this paragraph constitutes not less than 51 percent of the weight of the pasteurized process cheese spread.

(6) The weight of each variety of cheese in a pasteurized process cheese spread made with two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 10 percent of the total weight of both. The weight of each variety of cheese in a pasteurized process cheese spread made with three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 5 percent of the total weight of all. These limits do not apply to the quantity of cheddar cheese, washed curd cheese, colby cheese, and granular cheese in mixtures which are designated as American cheese as prescribed in paragraph (g) (6) of this section. Such mixtures are considered as one variety of cheese for the purposes of this subparagraph.

(7) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, and swiss cheese for manufacturing are considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, and swiss cheese, respectively.

(b) Pasteurized process cheese spread may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional cheese ingredients referred to in paragraph (a) of this section are one or more cheeses of the same or two or more varieties, except that skim-milk cheese for manufacturing may not be used, and except that cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, cook cheese, hard grating cheese, semisoft part-skim cheese, and part-skim spiced cheese are not used, alone or in combination with each other, as the cheese ingredient.

(d) The optional dairy ingredients referred to in paragraph (a) of this section are cream, milk, skim milk, cheese whey, or any mixture of two or more of these, or any of the foregoing from which part of the water has been removed, and albumin from cheese whey.

(e) The emulsifying agents prescribed in paragraph (a) of this section are one or any mixture of two or more of the following: monosodium phosphate, disodium phosphate, dipotassium phosphate, trisodium phosphate, sodium metaphosphate (sodium hexametaphosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, and sodium potassium tartrate, in such quantity that the weight of the solids of such emulsifying agent is not more than 3 percent of the weight of the pasteurized process cheese spread.

(f) The other optional ingredients referred to in paragraph (a) of this section are:

(1) One or any mixture of two or more of the following: Carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, carboxy-methylcellulose, carrageenan, oatgum, algin (sodium alginate), and algin derivative (propylene glycol ester of alginic acid). The total weight of such substances is not more than 0.8 percent of the weight of the finished food.

(2) An acidifying agent consisting of one or any mixture of two or more of the following: a vinegar, lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the pasteurized process cheese spread is not below 4.0.

(3) A sweetening agent consisting of one or any mixture of two or more of the following: sugar, dextrose, corn sugar, corn sirup, corn sirup solids, maltose, malt sirup, and hydrolyzed lactose, in a quantity necessary for seasoning.

(4) Water.

(5) Salt.

(6) Harmless artificial coloring.

(7) Spices or flavorings other than any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety.

(g) The label of a pasteurized process cheese spread shall bear the common or usual names of the optional ingredients used, as specified in paragraphs (c), (d), (e), and (f) (1), (2), (3), (4), and (5) of this section, except that carob bean gum, gum karaya, gum tragacanth, guar gum, and oat gum may be designated as "vegetable gum," and:

(1) If the pasteurized process cheese spread is smoked, or made from cheeses which have been smoked, the word "smoked" shall precede or follow the



name of the pasteurized process cheese spread or name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "with added \_\_\_\_\_" the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "spiced" or "spice added" or "with added spice" or in lieu of the word "spice" the common or usual name of the spice used.

(4) If it contains added flavoring, the label shall bear the statement "flavoring added," "with added flavoring," or "flavored with \_\_\_\_\_" the blank being filled in with the common or usual name of the flavoring used; and if the flavoring is artificial, the word "artificial" shall precede the word "flavoring" or the word "artificially" shall precede the statement "flavored with \_\_\_\_\_"

(5) If it contains added artificial coloring, the label shall bear the statement "artificially colored" or "contains artificial color."

(6) If the cheese ingredient contains cheddar cheese, washed curd cheese, colby cheese, granular cheese or any mixture of two or more of these, such cheese or such mixture may be designated as "American cheese."

(7) If an optional acidifying agent is used so that the pH of the finished food is less than 5.0, there shall appear after its name the words "a chemical preservative." In case vinegar is the only acidifying agent added it shall be considered to be acetic acid when the pH of the finished food is less than 5.0. In case vinegar and other acidifying agents are used and the pH of the finished food is less than 5.0, the name of the acidifying agents other than vinegar shall be followed by the statement "a chemical preservative."

(h) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**§ 19.776 Pasteurized cheese spread; identity; label statement of optional ingredients.** Pasteurized cheese spread is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese spread by § 19.775, except that no emulsifying agent as prescribed by § 19.775 (e) is used.

**§ 19.780 Pasteurized process cheese spread with fruits, vegetables, or meats; identity; label statement of optional ingredients.** (a) Pasteurized process cheese spread with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese spread by § 19.775, except that:

(1) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat.

(2) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized process cheese spread with fruits, vegetables, or meats is "Pasteurized process cheese spread with \_\_\_\_\_" the blank being filled in with the name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

**§ 19.781 Pasteurized cheese spread with fruits, vegetables, or meats; identity; label statement of optional ingredients.** (a) Pasteurized cheese spread with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized cheese spread by § 19.776, except that:

(1) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat.

(2) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized cheese spread with fruits, vegetables, or meats is "Pasteurized cheese spread with \_\_\_\_\_" the blank being filled in with the name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

**§ 19.785 Cold-pack cheese, club cheese, comminuted cheese; identity; label statement of optional ingredients.**

(a) (1) Cold-pack cheese, club cheese, comminuted cheese, is the food prepared by comminuting, without the aid of heat, one or more cheeses of the same or two or more varieties, except cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, hard grating cheese, semisoft part-skim cheese, part-skim spiced cheese, and skim-milk cheese for manufacturing, into a homogeneous plastic mass. One or more of the optional ingredients designated in paragraph (c) of this section may be used.

(2) All cheeses used in a cold-pack cheese are made from pasteurized milk or are held for not less than 60 days at a temperature of not less than 35° F. before being comminuted.

(3) (i) The moisture content of a cold-pack cheese made from a single variety of cheese is not more than the maximum moisture content prescribed by the definition and standard of identity, if any there be, for the variety of cheese used. If there is no applicable definition and standard of identity, or if such standard contains no provision as to maximum moisture content, no water is used in the preparation of the cold-pack cheese.

(ii) The fat content of the solids of a cold-pack cheese made from a single variety of cheese is not less than the

minimum prescribed by the definition and standard of identity, if any there be, for the variety of cheese used, but in no case is less than 47 percent, except that the fat content of the solids of cold-pack swiss cheese is not less than 43 percent, and the fat content of the solids of cold-pack gruyere cheese is not less than 45 percent.

(4) (i) The moisture content of a cold-pack cheese made from two or more varieties of cheese is not more than the arithmetical average of the maximum moisture contents prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used, but in no case is the moisture content more than 42 percent, except that the moisture content of a cold-pack cheese made from two or more of the varieties cheddar cheese, washed curd cheese, colby cheese, and granular cheese, is not more than 39 percent.

(ii) The fat content of the solids of a cold-pack cheese made from two or more varieties of cheese is not less than the arithmetical average of the minimum percent of fat prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used, but in no case is less than 47 percent, except that the fat content of the solids of a cold-pack cheese made from swiss cheese and gruyere cheese is not less than 45 percent.

(5) Moisture and fat are determined by the methods prescribed in § 19.500 (c).

(6) The weight of each variety of cheese in a cold-pack cheese made from two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 10 percent of the total weight of both, and the weight of limburger cheese is not less than 5 percent of the total weight of both. The weight of each variety of cheese in a cold-pack cheese made from three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 5 percent of the total weight of all, and the weight of limburger cheese is not less than 3 percent of the total weight of all. These limits do not apply to the quantity of cheddar cheese, washed curd cheese, colby cheese, and granular cheese in mixtures which are designated as American cheese as prescribed in paragraph (d) (2) of this section. Such mixtures are considered as one variety of cheese for the purpose of this subparagraph.

(b) Cold-pack cheese may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional ingredients referred to in paragraph (a) of this section are:

(1) An acidifying agent consisting of one or any mixture of two or more of the following: A vinegar, lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the finished cold-pack cheese is not below 4.5. For the purposes of this section vinegar is considered to be acetic acid.

(2) Water.



(3) Salt.

(4) Harmless artificial coloring.

(5) Spices or flavorings, other than any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety.

(d) (1) The name of a cold-pack cheese for which a definition and standard of identity is prescribed by this section is "Cold-pack \_\_\_\_\_ cheese" or "\_\_\_\_\_ club cheese" or "Comminuted \_\_\_\_\_ cheese," the blanks being filled in with the name or names of the varieties of cheese used, in order of predominance by weight.

(2) If the cold-pack cheese is made of cheddar cheese, washed curd cheese, colby cheese, or granular cheese or any mixture of two or more of these, it may be designated "Cold-pack American cheese"; or when cheddar cheese, washed curd cheese, colby cheese, or granular cheese or any mixture of two or more of these is combined with other varieties of cheese in the cheese ingredient any of such cheeses or such mixture may be designated as "American cheese."

(e) (1) If cold-pack cheese is smoked, or made from cheeses which have been smoked, the word "smoked" shall precede or follow the name of the cold-pack cheese or the name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "with added \_\_\_\_\_," the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "spiced" or "spice added" or "with added spice," or in lieu of the word "spice" the common or usual name of the spice or spices used.

(4) If it contains added flavoring, the label shall bear the statement "flavoring added" or "with added flavoring" or "flavored with \_\_\_\_\_," the blank being filled in with the common or usual name of the flavoring used; if the flavoring is artificial, the word "artificial" shall precede the word "flavoring" or the word "artificially" shall precede the statement "flavored with \_\_\_\_\_."

(5) If it contains an added acidifying agent as prescribed in paragraph (c) (1) of this section, the label shall bear the statement "\_\_\_\_\_ added as a chemical preservative," the blank being filled in with the name or names of the acidifying agents used.

(f) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.787 *Cold-pack cheese food; identity; label statement of optional ingredients.* (a) (1) Cold-pack cheese food is the food prepared by comminuting and mixing, without the aid of heat, one or more of the optional cheese ingredients prescribed in paragraph (c) of this section with one or more of the optional dairy ingredients prescribed in paragraph (d) of this section, into a homogeneous plastic mass. One or more of

the optional ingredients specified in paragraph (e) of this section may be used.

(2) All cheeses used in a cold-pack cheese food are made from pasteurized milk, or are held for not less than 60 days at a temperature of not less than 35° F. before being comminuted.

(3) The moisture content of a cold-pack cheese food is not more than 44 percent, and the fat content is not less than 23 percent.

(4) Moisture and fat are determined by the methods prescribed in § 19.500 (c), except that in determining moisture the loss in weight which occurs in drying for 5 hours, under the conditions prescribed in such method, is taken as the weight of moisture.

(5) The weight of the cheese ingredient prescribed by subparagraph (1) of this paragraph constitutes not less than 51 percent of the weight of the finished cold-pack cheese food.

(6) The weight of each variety of cheese in the cold-pack cheese food made with two varieties of cheese is not less than 25% of the total weight of both, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 10 percent of the total weight of both. The weight of each variety of cheese in the cold-pack cheese food made with three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 5 percent of the total weight of all. These limits do not apply to the quantity of cheddar cheese, washed curd cheese, colby cheese, and granular cheese in mixtures which are designated as American cheese as prescribed in paragraph (f) (6) of this section. Such mixtures are considered as one variety of cheese for the purposes of this subparagraph.

(b) Cold-pack cheese food may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional cheese ingredients referred to in paragraph (a) of this section are: One or more cheeses of the same or two or more varieties, except that cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, cook cheese, and skim-milk cheese for manufacturing are not used, and except that semisoft part-skim cheese, part-skim spiced cheese, and hard grating cheese may not be used, alone or in combination with each other, as the cheese ingredient.

(d) The optional dairy ingredients referred to in paragraph (a) of this section are: Cream, milk, skim milk, cheese whey, or any mixture of two or more of these or any of the foregoing from which part of the water has been removed, and albumin from cheese whey. All optional dairy ingredients used in cold-pack cheese food are pasteurized or made from products which have been pasteurized.

(e) The other optional ingredients referred to in paragraph (a) of this section are:

(1) An acidifying agent consisting of one or any mixture of two or more of the following: A vinegar, lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the finished cold-pack cheese food is not below 4.5.

(2) Water.

(3) Salt.

(4) Harmless artificial coloring.

(5) Spices or flavorings, other than any which singly or in combination with other ingredients simulate the flavor of cheese of any age or variety.

(6) A sweetening agent consisting of one or any mixture of two or more of the following: Sugar, dextrose, corn sugar, corn sirup, corn sirup solids, maltose, malt sirup, and hydrolyzed lactose, in a quantity necessary for seasoning.

(f) The label of a cold-pack cheese food shall bear the common or usual names of the optional ingredients used, as specified in paragraphs (c), (d), and (e) (1), (2), (3) and (6) of this section, and:

(1) If it is smoked, or made from cheeses which have been smoked, the word "smoked" shall precede or follow the name of the cold-pack cheese food or the name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "with added \_\_\_\_\_," the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "spiced," or "spice added," or "with added spice" or in lieu of the word "spice" the common or usual name of the spice used.

(4) If it contains added flavoring, the label shall bear the statement "flavoring added," "with added flavoring," or "flavored with \_\_\_\_\_," the blank being filled in with the common or usual name of the flavoring used. If the flavoring is artificial, the word "artificial" shall precede the word "flavoring," or the word "artificial" shall precede the word "flavored," or the word "artificially" shall precede the statement "flavored with \_\_\_\_\_."

(5) If it contains added artificial coloring the label shall bear the statement "artificially colored" or "contains artificial color."

(6) If the cheese ingredient contains cheddar cheese, washed curd cheese, colby cheese, or granular cheese or any mixture of two or more of these, such cheese or such mixture may be designated as "American cheese."

(7) If an optional acidifying agent is used so that the pH of the finished food is less than 5.0, there shall appear after its name the words "a chemical preservative." In case vinegar is the only acidifying agent added it shall be considered to be acetic acid when the pH of the finished food is less than 5.0. In case vinegar and other acidifying agents are used and the pH of the finished food is less than 5.0, the name of the acidifying agents other than vinegar shall be followed by the statement "a chemical preservative."

(g) Wherever the name of the food appears on the label so conspicuously as



to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.788 *Cold-pack cheese food with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Cold-pack cheese food with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for cold-pack cheese food by § 19.787, except that:

(1) Its milk fat content is not less than 22 percent.

(2) It contains one or any mixture of two or more of the following: any properly prepared fresh, cooked, canned, or dried vegetable; any properly prepared cooked or canned meat.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a cold-pack cheese food with fruits, vegetables or meats is "Cold-pack cheese food with \_\_\_\_\_," the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

*Effective dates.* The regulations of this order amending the definitions and standards of identity for cheddar cheese, washed curd cheese, and colby cheese and establishing definitions and standards of identity for various cheeses, classes of cheese, processed cheeses, etc., shall become effective 6 months after the date of publication of this order in the FEDERAL REGISTER, except that §§ 19.610, 19.637, and 19.680, establishing definitions and standards of identity for asiago medium cheese, sap sago cheese, and hard grating cheeses, respectively, shall become effective 9 months after publication of this order in the FEDERAL REGISTER; and §§ 19.595 and 19.625, establishing definitions and standards of identity for parmesan cheese and asiago old cheese, respectively, shall become effective one year after publication of this order in the FEDERAL REGISTER.

Dated: August 16, 1950.

[SEAL] OSCAR R. EWING,  
Administrator.

[F. R. Doc. 50-7334; Filed, Aug. 23, 1950;  
8:47 a. m.]

## TITLE 19—CUSTOMS DUTIES

### Chapter I—Bureau of Customs, Department of the Treasury

[T. D. 52540]

#### PART 22—DRAWBACK

##### MERCHANDISE SOLD TO U. S. GOVERNMENT

In order to place in the suppliers of merchandise sold to the United States the responsibility of reserving the right to drawback with the knowledge and consent of the particular department,

branch, or agency of the United States Government concerned, the second sentence of § 22.41, Customs Regulations of 1943 (19 CFR 22.41), as amended, is further amended to read as follows: "If the merchandise was so sold, drawback, if claimed by a person other than a Government agency, shall be allowed only when the entry is supported by a certificate signed by a proper officer of the department, branch, or agency concerned stating that the right to drawback was reserved by the supplier with the knowledge and consent of the said department, branch, or agency of the United States Government."

Notice of the proposed further amendment of the regulation was published in the FEDERAL REGISTER of May 9, 1950 (15 F. R. 2756), pursuant to section 4 of the Administrative Procedure Act (5 U. S. C. 1003). All relevant matter presented has been duly considered.

(Sec. 624, 46 Stat. 759; 19 U. S. C. 1624. Interprets or applies sec. 313, 46 Stat. 693, as amended; 19 U. S. C. 1315)

[SEAL] FRANK DOW,  
Commissioner of Customs.

Approved: AUGUST 17, 1950.

JOHN S. GRAHAM,  
Acting Secretary of the Treasury.

[F. R. Doc. 50-7370; Filed, Aug. 23, 1950;  
8:50 a. m.]

## TITLE 22—FOREIGN RELATIONS

### Chapter II—Economic Cooperation Administration

[ECA Reg. 1, Amdt. 5, Effective Sept. 15, 1950]

#### PART 201—PROCEDURE FOR FURNISHING ASSISTANCE TO PARTICIPATING COUNTRIES

##### PETROLEUM PRODUCTS

ECA Regulation 1 is amended in the following respect:

Section 201.22 (d) (4) is amended by adding the following:

(1) *Petroleum products*—(a) *Purchases from any source.* A price for a purchase of a petroleum product from any source will not be approved for reimbursement if it results in a delivered cost to the participating country which is in excess of the lowest prevailing delivered cost, on the date the ocean carrier tenders to load, for a comparable export sale of the same or similar commodity to such participating country from any alternative source of supply from which the commodity is available for export in sufficient quantity.

(b) *Purchases from sources other than the United States.* A price for a purchase of a petroleum product from sources other than the United States will be approved for reimbursement if it complies with the requirements of paragraph (e) (2), and does not exceed the lowest competitive market price in the United States for a comparable export sale of the same or a similar commodity on the date the ocean carrier tenders to load.

*Provided,* That a price for a purchase of a petroleum product from the Middle East may not exceed the United States

price referred to above less \$3.50 per long ton for loadings from Arabian ports or from Bahrain Island; \$4.00 per long ton for loadings from Kuwait ports; or \$4.20 per long ton for loadings from Iranian ports; *Provided further,* That the price shall be further reduced in the amounts specified below for shipments to the following destinations:

Group	Ports of destination	Additional reductions per long ton
1	Including and between Bordeaux, Hamburg, and the United Kingdom.....	\$0.85
2	Sweden.....	1.15
3	Denmark.....	1.25
4	Norway.....	1.35

(c) For the purposes of this subdivision, a sale for export from the Middle East to any port of destination described in subdivision (b) of this subparagraph shall not be deemed a "comparable sale" within the meaning of paragraph (b) (2) to (1) a sale for export from the Middle East to any other port of destination in any other group described in subdivision (b) of this subparagraph, or (2) any other destination other than the United States.

(d) For purposes of this subdivision "price" shall mean the realized f. o. b. price or realized netback.

(Sec. 104, 62 Stat. 138, as amended; 22 U. S. C. Su. 1503. Interprets or applies secs. 111, 403, 62 Stat. 143, 159; 22 U. S. C. Sup., 1509, 1542)

WILLIAM FOSTER,  
Acting Administrator for  
Economic Cooperation.

[F. R. Doc. 50-7387; Filed, Aug. 23, 1950;  
8:52 a. m.]

## TITLE 24—HOUSING AND HOUSING CREDIT

### Chapter VIII—Office of Housing Expediter

[Controlled Housing Rent Reg., Amdt. 272]

[Controlled Rooms in Rooming Houses and Other Establishments Rent Reg., Amdt. 269]

#### PART 825—RENT REGULATIONS UNDER THE HOUSING AND RENT ACT OF 1947, AS AMENDED

##### CERTAIN STATES

The Controlled Housing Rent Regulation (§§ 825.1 to 825.12) and the Rent Regulation for Controlled Rooms in Rooming Houses and Other Establishments (§§ 825.81 to 825.92) are amended in the following respects:

1. In Schedule C, Item 143, the description of localities affected by declarations for continuance of rent control after December 31, 1950, is amended to read as follows:

In Suffolk County, the Municipalities of Boston and Chelsea; and in Norfolk County, the Town of Westwood.

This adds to Schedule C the Town of Westwood in Norfolk County, Massachusetts, a portion of the Eastern Massachusetts Defense-Rental Area, based upon a declaration made on July 26, 1950, by the local governing body of said Town of



Westwood in accordance with section 204 (f) (1) of the Housing and Rent Act of 1947, as amended.

2. In Schedule C, Item 190, the description of localities affected by declarations for continuance of rent control after December 31, 1950, is amended to read as follows:

In Bergen County, the Municipalities of East Rutherford and North Arlington; in Hudson County, the Cities of Hoboken, Jersey City and Union City; in Union County, the Borough of Roselle; in Essex County, the City of Newark; in Morris County, the Township of Hanover; and in Monmouth County, the City of Long Branch.

This adds to Schedule C the following municipalities in the Northeastern New Jersey Defense-Rental Area: (1) The Borough of Roselle in Union County, New Jersey, based upon a declaration made on August 10, 1950, (2) the City of Newark in Essex County, New Jersey, and the City of Long Branch in Monmouth County, New Jersey, based upon declarations made on August 9, 1950, and (3) Hanover Township in Morris County,

New Jersey, based upon a declaration made on August 7, 1950. All of said declarations were made by the local governing bodies of the respective municipalities in accordance with section 204 (f) (1) of the Housing and Rent Act of 1947, as amended.

3. In Schedule C, Item 371, the description of localities affected by declarations for continuance of rent control after December 31, 1950, is amended to read as follows:

In Puerto Rico, the Municipalities of Isabella, Loiza, Cidra, Naranjito, San Lorenza, Cayey and San Sebastian

This adds to Schedule C the Municipality of San Sebastian, Puerto Rico, in the Puerto Rico Defense-Rental Area, based upon a declaration made on June 29, 1950, by the local governing body of said Municipality of San Sebastian in accordance with section 204 (f) (1) of the Housing and Rent Act of 1947, as amended.

4. The following new items are incorporated in Schedule C:

Cities of Culver City and Whittier in Los Angeles County, California, portions of the Los Angeles, California, Defense-Rental Area.

2. Schedule A, Item 36, is amended to describe the counties in the Defense-Rental Area as follows:

San Bernardino County, except (i) the Judicial Townships of Amboy, Kelso, Ludlow and Vanderbilt, (ii) that portion of the Judicial Township of Yermo lying north of the Third Standard Line north of San Bernardino Base Line (iii) the Cities of Colton, Ontario and San Bernardino.

This decontrols the City of Colton in San Bernardino County, California, a portion of the San Bernardino, California, Defense-Rental Area.

3. Schedule A, Item 42, is amended to read as follows:

(42) [Revoked and decontrolled.]

This decontrols the entire Colorado Springs, Colorado, Defense-Rental Area, consisting of the City of Colorado Springs, Colorado.

4. Schedule A, Item 70, is amended to describe the counties in the Defense-Rental Area as follows:

DeKalb County, except the Cities of Decatur and Pine Lake; Clayton and Fulton Counties, except the Cities of College Park, Fairburn, Forest Park, Eastpoint and Hapeville and the Town of Union City; and Cobb County, except the Cities of Austell, Marietta and Powder Springs.

This decontrols the City of Austell in Cobb County, Georgia, a portion of the Atlanta, Georgia, Defense-Rental Area.

5. Schedule A, Item 169, is amended to read as follows:

(169) [Revoked and decontrolled.]

This decontrols the entire Joplin-Neosho, Missouri, Defense-Rental Area, consisting of the City of Joplin, Missouri.

6. Schedule A, Item 253c, is amended to describe the counties in the Defense-Rental Area as follows:

Douglas County, except that portion lying East of the West Boundary of Range 3, West, and except the City of Roseburg.

This decontrols the City of Roseburg in Douglas County, Oregon, a portion of the Douglas, Oregon, Defense-Rental Area.

7. Schedule A, Item 347, is amended to describe the counties in the Defense-Rental Area as follows:

Whatcom County, except the City of Bellingham.

Sksgit County, except the City of Mount Vernon.

This decontrols the City of Bellingham in Whatcom County, Washington, a portion of the Bellingham, Washington, Defense-Rental Area.

8. Schedule A, Item 350a, is amended to read as follows:

(350a) [Revoked and decontrolled.]

This decontrols (1) the City of Olympia in Thurston County, Washington, a portion of the Olympia, Washington, Defense-Rental Area, and all unincorporated localities in said Defense-Rental Area, based upon a resolution submitted with respect to said City of Olympia in accordance with section 204 (j) (3) of the Housing and Rent Act of 1947, as

Name of defense-rental area and State	Localities affected by declarations for continuance of rent control after Dec. 31, 1950
(94) Springfield-Decatur, Ill.	In Macon County, the city of Decatur.
(160) Minneapolis-St. Paul, Minn.	In Washington County, the village of Forest Lake.
(188a) Southern New Jersey, N. J.	In Camden County, the borough of Lindenwold.
(241b) Zanesville, Ohio	In Muskingum County, the city of Zanesville and all unincorporated localities in Springfield Township.
(269b) State College, Pa.	In Centre County, the municipality of Fort Matilda.

This addition to Schedule C is based upon (1) declarations made on August 10, 1950, by the local governing bodies of Decatur, Illinois, and Lindenwold, New Jersey, (2) a declaration made on August 7, 1950, by the local governing body of Port Matilda, Pennsylvania, (3) a declaration made on July 31, 1950, by the local governing body of Zanesville, Ohio, said City of Zanesville being the major portion of the Zanesville, Ohio, Defense-Rental Area, and (4) a declaration made on or before August 4, 1950, by the local governing body of Forest Lake, Minnesota, all in accordance with Section 204 (f) (1) of the Housing and Rent Act of 1947, as amended.

(Sec. 204, 61 Stat. 197, as amended; 50 U. S. C. App. Supp. 1894)

This amendment shall become effective August 22, 1950.

Issued this 21st day of August 1950.

TICHE E. WOODS,  
Housing Expediter.

[F. R. Doc. 50-7364; Filed, Aug. 23, 1950; 8:48 a. m.]

[Controlled Housing Rent Reg., Amdt. 273]

[Controlled Rooms in Rooming Houses and Other Establishments, Rent Reg., Amdt. 270]

**PART 825—RENT REGULATIONS UNDER THE HOUSING AND RENT ACT OF 1947, AS AMENDED**

**CERTAIN STATES**

The Controlled Housing Rent Regulation (§§ 825.1 to 825.12) and the Rent Regulation for Controlled Rooms in Rooming Houses and Other Establish-

ments (§§ 825.81 to 825.92) are amended in the following respects:

1. Schedule A, Item 30, is amended to describe the counties in the Defense-Rental Area as follows:

Orange County, except (1) the Cities of Anaheim, Fullerton, Huntington Beach, Laguna Beach, Newport Beach and Orange (2) that portion of Orange County lying south of the south line of Township Six South, Range Eight West, San Bernardino Base and Meridian, and the easterly and westerly prolongation of said south line, and (3) that portion of Orange County beginning at the intersection of the north line of Section 12, Township 5 South, Range 12 West, San Bernardino Base and Meridian with the westerly line of said Orange County; running thence from said point of beginning easterly along Section lines to the northeast corner of Section 9, Township 5 South, Range 11 West, San Bernardino Base and Meridian; thence southerly along section lines to the northerly boundary line of the City of Huntington Beach, thence westerly and southerly along said boundary line to the City of Huntington Beach to the ordinary high tide line of the Pacific Ocean; thence northwesterly along said high tide line to the westerly boundary line of Orange County; thence northeasterly along said boundary line to the point of beginning; including the incorporated City of Seal Beach, and the unincorporated communities of Sunset Beach and Surfside.

Los Angeles County, except Catalina Township and the Cities of Arcadia, Alhambra, Bell, Beverly Hills, Burbank, Claremont, Compton, Covina, Culver City, El Monte, El Segundo, Glendale, Hermosa Beach, Huntington Park, Inglewood, La Verne, Long Beach, Lynwood, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Pasadena, Pomona, Redondo Beach, Santa Monica, Sierra Madre, Signal Hill, South Gate, South Pasadena and Whittier.

This decontrols the City of Anaheim in Orange County, California, and the



amended, said City of Olympia being the major portion of said Defense-Rental Area, and (2) the remainder of said Defense-Rental Area, on the Housing Expeditors' own initiative in accordance with section 204 (c) of said act.

Items 1 through 7 of this amendment are based upon resolutions submitted in accordance with section 204 (j) (3) of the Housing and Rent Act of 1947, as amended.

(Sec. 204, 61 Stat. 197, as amended; 50 U. S. C. App. Supp. 1894)

This amendment shall become effective August 22, 1950.

Issued this 21st day of August 1950.

TICHE E. WOODS,  
Housing Expediter.

[F. R. Doc. 50-7355; Filed, Aug. 23, 1950;  
8:48 a. m.]

## TITLE 39—POSTAL SERVICE

### Chapter I—Post Office Department

#### PART 3—MISCELLANEOUS PROVISIONS RELATING TO THE DEPARTMENT AND THE POSTAL SERVICE

#### PART 42—TREATMENT OF DOMESTIC MAIL MATTER AT POST OFFICES OF MAILING AND AT POST OFFICES IN TRANSIT

#### PART 43—TREATMENT OF DOMESTIC MAIL MATTER AT RECEIVING POST OFFICES

##### MISCELLANEOUS AMENDMENTS

a. In § 3.4 *Loss of or damage to Government property by employee* (39 CFR 3.4) amend paragraph (a) to read as follows:

§ 3.4 *Loss of or damage to Government property by employee*—(a) *Determination of responsibility.* Whenever Government property of any kind is lost or damaged through the carelessness, negligence, willfulness, or malice of a postal employee, the facts shall be reported by the postmaster or district superintendent, Postal Transportation Service, to the proper bureau of the Post Office Department for determination as to whether such postal employee shall be held personally responsible for the value of the property so lost, damaged, or destroyed.

b. In § 3.5 *Damage to person or property by postal operations* (39 CFR 3.5) make the following changes in paragraph (n).

1. Amend subparagraph (1) to read as follows:

(n) *Investigations and reports of accidents*—(1) *Report to Bureau concerned.* The postmaster, or district superintendent, Postal Transportation Service, shall investigate and report to the Bureau of the Department concerned all the facts concerning accidents of any kind involving instrumentalities of the Post Office Department, with a recommendation as to the action which should be taken, including his opinion as to the negligence of the employee involved. Such report should be submitted in triplicate. If Government property was damaged through the fault of a private party, the postmaster,

or district superintendent, Postal Transportation Service, shall collect the amount of such damage, if possible.

2. Amend subparagraph (4) to read as follows:

(4) *Card record regarding possible claims.* Postmasters and district superintendents, Postal Transportation Service, shall maintain on cards furnished them for that purpose an office record of written communications received by them from persons or concerns sustaining injuries or damage expressing a desire or an intent to file claim for such injuries or damage, which record shall include the name and address of the complainant, the date the communication is received by the postmaster or district superintendent, Postal Transportation Service, the name of counsel (if any) and such other data required by the record form as may be secured by the postmaster or district superintendent, Postal Transportation Service.

(R. S. 161, 396, secs. 304, 309, 42 Stat. 24, 25; 5 U. S. C. 22, 369)

c. In § 42.23 *Recall of mail by sender after dispatch* (39 CFR 42.23) amend paragraph (a) to read as follows:

§ 42.23 *Recall of mail by sender after dispatch*—(a) *Application for.* When the sender of any article of unregistered matter desires its return after it has been dispatched from the mailing office, application therefor shall be made on Form 1509 to the postmaster at the office of mailing. (See § 108.31 of this chapter as to return of matter by postal transportation clerks; § 115.1 of this chapter as to recall of foreign matter; § 59.68 of this chapter as to recall of registered matter.) The requirement that the application for the recall of mail matter shall be made through the mailing office will not apply to official mail, but postmasters at offices of destination receiving requests by telegraph, telephone, or mail from executive departments at Washington, D. C., or their regional disbursing officers shall comply promptly therewith and take special care to prevent delivery of Government checks subject to recall.

(R. S. 161, 396, secs. 304, 309, 42 Stat. 24, 25; 5 U. S. C. 22, 369)

d. Section 43.15 *Letters under cover to postmasters* is amended to read as follows:

§ 43.15 *Letters under cover to postmasters.* Postmasters shall forward all matter of the first class on which one full rate of postage is prepaid which may be received under cover from any other post office with or without request to mail the same. Before forwarding they shall cancel the stamps and indorse in writing or stamp on such matter the following:

Received at \_\_\_\_\_, under cover from the post office at \_\_\_\_\_.

When the name of the mailing office does not appear, the indorsement shall be made as indicated, leaving the last two spaces blank. The foregoing indorsement shall not apply to matter received for mailing under the provisions of § 91.1

(b) of this chapter, or to philatelic covers submitted by collectors or others.

e. In § 43.29 *Mail addressed to minors* (39 CFR 43.29) amend paragraph (d) to read as follows:

(d) *At educational institutions.* At colleges and similar institutions, where students have been placed under the charge of the principal by their parents or guardians, and where the rules of the institution provide that the principal shall have control of mail matter addressed to such students as are minors, such mail shall be delivered in accordance with the order of the principal. If, however, the principal has no authority from the parent or guardian to control the mail of the children placed under his care (which authority is understood by an acceptance of the rules, that being one), such mail shall not be delivered to the principal against the wishes of the scholar.

(R. S. 161, 396, secs. 304, 309, 42 Stat. 24, 25; 5 U. S. C. 22, 369)

[SEAL]

J. M. DONALDSON,  
Postmaster General.

[F. R. Doc. 50-7350; Filed, Aug. 23, 1950;  
8:45 a. m.]

#### PART 35—PROVISIONS APPLICABLE TO THE SEVERAL CLASSES OF MAIL MATTER

##### PART 63—INDEMNITY FOR LOSSES

#### PART 64—DOMESTIC INSURANCE AND COLLECT-ON-DELIVERY SERVICES: INDEMNITY

##### MISCELLANEOUS AMENDMENTS

In § 35.14 *Inflammable substances* (39 CFR 35.14) make the following changes in paragraph (f):

1. Amend subparagraphs (1) and (2) to read as follows:

(f) *Matches.* (1) Safety matches (strike-only on box or book variety) in quantities not exceeding 100 regular size books or boxes shall be accepted for transmission in the domestic mails when packed in tightly closed metal containers, or in strong containers of other non-fragile material having a securely glued inside lining consisting of either aluminum foil 0.0004 inch thick, or long fiber asbestos paper 0.006 inch thick, or securely coated with other equivalent fire retardant material approved by the Postmaster General. The containers other than metal must be completely filled with safety matches and the flaps reinforced with strong gummed tape unless an exceptionally strong container is used with locking flaps approved by the Postmaster General in which case gummed tape is not required. Safety matches shall have an ignition temperature as determined in the oven test of not less than 170° C. (338° F.) to be acceptable in the mails.

(2) Pull-and-light types of safety matches (each match head individually embedded in the striking panels) approved by the Postmaster General, shall be accepted for transmission in the domestic mails when packed in completely filled tightly closed strong containers.



2. Redesignate subparagraph (3) as subparagraph (4) and insert a new subparagraph (3) to read as follows:

(3) Safety matches of the giant or jumbo book type are acceptable in single books holding not more than 12 matches in a single row enclosed in envelopes approximately 4 1/2 by 3 3/4 inches, lined with not less than 0.006-inch-thick long fiber asbestos paper or not less than 0.00035-inch-thick aluminum foil or other approved fire retardant material, with a bursting strength of not less than 50 points (Mullen or Cady tester). The envelopes shall not crack at the folds; and if the end flap is not closed by a metal clasp or fiberboard buttons with strong twine, it must fold inside the envelope at least 1 1/2 inches. Other type books of safety matches are not mailable in envelopes.

(R. S. 161, 396, sec. 24, 20 Stat. 361, secs. 304, 309, 42 Stat. 24, 25; 5 U. S. C. 22, 369, 39 U. S. C. 250)

In § 63.6 *When no indemnity will be paid* add a new paragraph (1) to read as follows:

(1) For the loss or rifling of, or damage to, an article before acceptance or after proper delivery.

(R. S. 161, 396, 3926, as amended, sec. 8, 37 Stat. 558, as amended, secs. 304, 309, 42 Stat. 24, 25, sec. 3, 45 Stat. 469, as amended; 5 U. S. C. 22, 369, 39 U. S. C. 244, 381, 381a)

In Part 64 (39 CFR 64) make the following changes:

1. Redesignate § 64.41 as § 64.41a.
2. Redesignate § 64.40 as § 64.41.
3. Redesignate § 64.39 as § 64.40.
4. Redesignate § 64.38 as § 64.39.
5. Redesignate § 64.37 as § 64.38.
6. Delete paragraph (d) of § 64.36 *Demurrage charge*.

7. Insert a new § 64.37 to read as follows:

§ 64.37 *Notification of nondelivery; additional fee for.* (a) The fee for notifying the sender or his representative of inability to deliver a collect-on-delivery article shall be 5 cents.

(Sec. 211, 62 Stat. 1266; 39 U. S. C. 245b)

(b) The sender or his representative shall be notified of nondelivery only when

collect-on-delivery mail is endorsed to show that notice is desired. Notice is to be sent as soon as it is definitely known that a collect-on-delivery article is undelivered, but, in any event, within 5 days after the date of receipt of the article at the office of address. The fee for this service shall be collected by the postmaster at the office where the sender or his representative is located by means of postage-due stamps affixed to the notice. The date on which notice is sent to the sender or his representative of undelivered collect-on-delivery mail shall be entered in the space provided for that purpose on the C. O. D. tag. No other record shall be made of the issuance of such notice nor shall the mail be so endorsed.

8. Amend § 64.40 *When indemnity to be paid and when not* as follows:

- a. Delete paragraph (c).
- b. Redesignate paragraph (d) as paragraph (c).
- c. Redesignate paragraph (e) as paragraph (d).
- d. Add new paragraphs (e) to (g) to read as follows:

(e) For the spoiling or deterioration of perishable matter because of delays beyond the control of the Postal Service.

(f) For the freezing, melting, spoiling or deterioration of matter directly due to the temperature (natural or artificial) to which such matter may have been subjected while in the custody of the Postal Service, except that indemnity may be paid where such damage was directly due to the fault of the Postal Service.

(g) For spoiling of matter of a perishable nature, when the parcel could not possibly have reached the addressee in good condition in the ordinary course of the mails.

(R. S. 161, 396, sec. 8, 37 Stat. 558, as amended, secs. 304, 309, 42 Stat. 24, 25; 5 U. S. C. 22, 369, 39 U. S. C. 244)

[SEAL]

J. M. DONALDSON,  
Postmaster General.

[F. R. Doc. 50-7351; Filed, Aug. 23, 1950; 8:45 a. m.]

TITLE 49—TRANSPORTATION

Chapter I—Interstate Commerce Commission

[Corrected S. O. 851, Amdt. 2]

PART 95—CAR SERVICE

SUBSTITUTION OF REFRIGERATOR CARS FOR BOX CARS

At a session of the Interstate Commerce Commission, Division 3, held at its office in Washington, D. C., on the 18th day of August A. D. 1950.

Upon further consideration of Service Order No. 851 (15 F. R. 3486), and good cause appearing therefor: It is ordered, that:

Section 95.851 *Substitution of refrigerator cars for box cars*, of Service Order No. 851 be, and it is hereby further amended by substituting the following paragraph (d) for paragraph (d) thereof:

(d) *Expiration date.* This order shall expire at 11:59 p. m., October 31, 1950, unless otherwise modified, changed, suspended, or annulled by order of this Commission.

*Effective date.* This amendment shall become effective at 11:59 p. m., August 31, 1950.

It is further ordered, that a copy of this amendment and direction be served upon the Association of American Railroads, Car Service Division, as agent of the railroads subscribing to the car service and per diem agreement under the terms of that agreement; and that notice of this order be given to the general public by depositing a copy in the office of the Secretary of the Commission at Washington, D. C., and by filing it with the Director, Division of the Federal Register.

(Sec. 12, 24 Stat. 383, as amended; 49 U. S. C. 12. Interprets or applies sec. 1, 24 Stat. 379, as amended; 49 U. S. C. 1)

By the Commission, Division 3.

[SEAL]

W. P. BARTEL,  
Secretary.

[F. R. Doc. 50-7363; Filed, Aug. 23, 1950; 8:47 a. m.]

PROPOSED RULE MAKING

DEPARTMENT OF AGRICULTURE

Bureau of Animal Industry

[9 CFR, Part 151]

RECOGNITION OF BREEDS AND PUREBRED ANIMALS

CATTLE

Notice is hereby given that the Secretary of Agriculture, pursuant to the authority vested in him by sec. 201, par. 1606 of the Tariff Act of 1930 (19 U. S. C., sec. 1201, par. 1606), proposes to recognize the book of record of purebred cattle entitled "Lincoln Red Herd Book,"

No. 164—6

published by the Lincoln Red Shorthorn Society, 17, West Parada, Lincoln, England (W. Dunnaway, Secretary), and to amend the regulations governing the recognition of breeds and books of record of purebred animals by adding the name of the herd book to the list of books of record named in 9 CFR 151.10 (a), as amended, under the sub-heading "Cattle."

Any person who wishes to submit written data or arguments concerning the proposed amendment may do so by filing them with the Chief of the Bureau of Animal Industry, Agricultural Research Administration, United States Depart-

ment of Agriculture, Washington 25, D. C., within ten days after the date of publication of this notice in the FEDERAL REGISTER.

Done at Washington, D. C., this 18th day of August 1950. Witness my hand and the seal of the United States Department of Agriculture.

(Sec. 201, Par. 1606, 46 Stat. 673; 19 U. S. C. 1201, Par. 1606)

[SEAL]

CHARLES F. BRANNAN,  
Secretary of Agriculture.

[F. R. Doc. 50-7359; Filed, Aug. 23, 1950; 8:46 a. m.]



## DEPARTMENT OF LABOR

## Wage and Hour Division

[ 29 CFR, Part 526 ]

EXEMPTION OF THE DRYING AND STORING,  
INCLUDING RECEIVING, OF ROUGH  
SOUTHERN RICE AS AN INDUSTRY OF A  
SEASONAL NATURE

## PRELIMINARY DETERMINATION

An application has been filed by the Texas Rice Dryers Association, the American Rice Growers Cooperative Association of Louisiana, and the Arkansas Rice Growers Cooperative Association for amendment of the determination (5 F. R. 2758) that the movement to storage and the receiving into storage of rough southern rice is an industry of a seasonal nature within the meaning of section 7 (b) (3) of the Fair Labor Standards Act of 1938 (52 Stat. 1063; 29 U. S. C. 207 (b) (3)), and Part 526 issued thereunder (29 CFR Part 526) to include the artificial drying of rice prior to placing it in storage.

It appears from the application that:

1. At the time the original determination was issued (August 1, 1940) rice was dried in shocks in the field and normally not threshed until the moisture content was low enough to permit safe storage. Since that time the binder and stationary thresher used in that process have been almost entirely supplanted by the direct-combine-drier method of harvesting. At the present time, combine rice is harvested with a relatively high moisture content and must be dried artificially before storage. The use of the combine has necessitated the addition of drying equipment in the movement of rough southern rice to storage.

2. The industry in Texas, Arkansas, Louisiana and other southern states which engages in the movement to storage and the receiving into storage of rough southern rice, heretofore determined to be of a seasonal nature, now also engages in the drying of rough southern rice prior to storage.

3. Rough southern rice is harvested in Louisiana, Texas, Arkansas and other southern states commencing about August 1 each year and continuing until about December 15. The bulk of the rice crop produced in these states moves to rice-driers and warehouses immediately after harvesting.

4. As received from the farm, rice is a perishable commodity which must be dried to a moisture content of approximately 13.5 percent and such drying must be performed within the period of approximately 24 hours from the time the rice is cut.

5. The industry engages in the handling, extracting, or processing of materials during a season occurring in a regularly annually recurring part of the year and ceases production apart from work such as maintenance, repair, clerical, and sales work in the remainder of the year because of the fact that the rice is not available.

Accordingly, upon consideration of the facts stated in said application, the Administrator hereby determines, pursuant to § 526.5 (b) (2) relating to industries

of a seasonal nature (29 CFR 526.5 (b) (2)), that a prima facie case has been shown for finding that the industry engaged in drying or storing or drying and storing, including receiving, of rough southern rice in the States of Texas, Arkansas, Louisiana, and other southern states constitutes an industry of a seasonal nature within the meaning of section 7 (b) (3) of the Fair Labor Standards Act of 1938 and § 526.3 (a) of Part 526 issued thereunder (29 CFR 526.3 (a)).

The term "drying or storing or drying and storing, including receiving, of rough southern rice" includes the unloading, weighing, marking for identification, artificial drying, sacking, placing into storage and storing of rough rice in the States of Texas, Arkansas, Louisiana and other southern states, and any operations or services necessary or incident to the foregoing during the period or periods when rice is received for drying or storing or drying and storing.

If no objection and request for hearing is received within 15 days following the publication of this preliminary determination, the Administrator pursuant to § 526.5 (b) (2), will make a finding upon the prima facie case. Such finding will supersede the original determination issued August 1, 1940, mentioned above. Objections and request for hearing from any interested person should be submitted in writing to the Wage and Hour and Public Contracts Divisions, Department of Labor Building, Fourteenth Street and Constitution Avenue NW., Washington 25, D. C. The application for exemption may be examined in Room 5118 at this address.

Signed at Washington, D. C., this 21st day of August 1950.

WM. R. MCCOMB,  
Administrator.

[F. R. Doc. 50-7369; Filed, Aug. 23, 1950;  
8:49 a. m.]

## FEDERAL SECURITY AGENCY

## Food and Drug Administration

[ 21 CFR, Part 19 ]

[Docket No. FDC-46]

CREAM CHEESE WITH (AND) OTHER FOODS;  
NEUFCHATEL CHEESE SPREAD WITH  
(AND) OTHER FOODS; DEFINITIONS AND  
STANDARDS OF IDENTITY

## NOTICE OF PROPOSED RULE MAKING

In the matter of amending the definitions and standards of identity for cheddar cheese, washed curd cheese, and colby cheese, and establishing definitions and standards of identity for other cheeses, processed cheeses, cheese foods, cheese spreads, and related foods:

There was published in the FEDERAL REGISTER on April 22, 1949 (14 F. R. 1960), a proposed order by the Acting Federal Security Administrator, which contained findings of fact and regulations amending the existing definitions and standards of identity for cheddar cheese, washed curd cheese and colby cheese, and fixing and establishing definitions and standards of identity for a number

of other cheeses, cheese foods, cheese spreads, and related foods. Among other things said order contained proposed findings of fact with respect to pasteurized cream cheese spread and pasteurized neufchatel cheese spread with fruits, vegetables, and meats, and also proposed regulations fixing and establishing definitions and standards of identity for these foods. As appears from a comparison of the said proposed order with the final order in the above-entitled matter, dated this day and published in this issue of the FEDERAL REGISTER,<sup>1</sup> the proposed findings of fact and regulations concerning pasteurized cream cheese spread and pasteurized neufchatel cheese spread with fruits, vegetables, and meats have not been finally promulgated. On consideration of the entire record to date, including the exceptions filed to the proposed order and the findings of fact in the said final order, and on the basis of substantial evidence received at the public hearing held pursuant to the notice published in the FEDERAL REGISTER on February 21, 1947 (12 F. R. 1192), it is proposed that, by virtue of the authority vested in the Federal Security Administrator by the provisions of the Federal Food, Drug, and Cosmetic Act (sections 401, 701; 52 Stat. 1046, 1055; 21 U. S. C. 341, 371), the following order relating to cream cheese with (and) other foods, and neufchatel cheese spread with (and) other foods, be made:

*Findings of fact.*<sup>2</sup> 1. There are on the market a number of foods prepared by adding other suitable foods, such as fruits, vegetables, relish, or meats, to cream cheese or neufchatel cheese. At the present time there are no definitions and standards of identity for such foods. In the case of those foods made in part from cream cheese, they may be designated on their labels as "cream cheese," with the name of the added food; for example, "cream cheese and pineapple"; or they may be designated as some type of cream cheese spread. If cream cheese is not permitted to be used in foods designated as pasteurized process cheese spreads with other foods, the status of these foods is uncertain. To leave them without standards might result in abuses. To provide, however, that a cheese spread prepared from cream cheese and other foods with only an overall limit of 60 percent moisture and a minimum of 20 percent milk fat would make it possible to dilute a cream cheese into a range of neufchatel cheese, which is not in the interest of consumers, since it would break down the distinction between cream cheese and neufchatel cheese. It is reasonable, therefore, to provide two definitions and standards of identity for soft uncured cheeses with other suitable foods, one in which cream cheese is the cheese ingredient and the other in which neufchatel cheese is the cheese ingredient. (R. 1822, 1827-1828, 2252, 2273, 2309, 2327-2328, 2330, 2332-

<sup>1</sup> See F. R. Doc. 50-7334, Title 21, Chapter I, *supra*.

<sup>2</sup> The citations following each finding of fact refer to the pages of the transcript of the testimony and the exhibits received in evidence at the hearing.



2333, 2338, 2475, 2615, 2617, 2644, 2650, 2782, 2783, 2963, 3012, 3116-3121)

2. Cream cheese with (and) other foods is the class of foods prepared by mixing, with or without the aid of heat, cream cheese with one or a mixture of two or more properly prepared foods such as fresh, cooked, canned, or dried fruits or vegetables; cooked or canned meats; relishes, pickles, or other foods suitable for blending with cream cheese. The food is basically a cream cheese product, and cream cheese should constitute not less than 80 percent by weight of the mixture. No water other than that contained in the ingredients used is needed. The water contained in the food added to the cream cheese may increase the moisture content above that of cream cheese, but in no case should the moisture exceed 60 percent. The percent of milk fat is not less than 33 percent of the percent of the cream cheese in the mixture, but in no case should it be less than 27 percent by weight of the finished food. It may be necessary to add water-retaining agents in addition to those contained in the cream cheese, but it is not necessary to add such agents, including that already in the cream cheese, in excess of 0.8 percent of the weight of the finished food. The following substances, or mixtures of two or more of these substances, are suitable for such use: carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, carboxymethylcellulose, carrageen, oat gum, algin (sodium alginate), and algin derivative (propylene glycol ester of alginic acid). Artificial coloring may be added if it does not conceal damage or inferiority or make the cream cheese, the added food, or the mixture appear better or of greater value than it is. The name of the food is "cream cheese with (and) \_\_\_\_\_," the blank being filled in with the name or names of the added food or foods in order of predominance by weight. (R. 1822, 1827-1828, 2273, 2327-2328, 2475, 2782, 2962-2963)

3. It is reasonable and in the interest of consumers to provide a definition and standard of identity for a pasteurized cheese spread having a soft uncured cheese as the base, to which are added other suitable foods. Neufchatel cheese is the cheese ingredient suitable for this purpose and should constitute not less than 80 percent of the finished food. No water other than that contained in the ingredients used is needed. The water contained in the foods added to the neufchatel cheese may increase the moisture content above that of neufchatel cheese, but the moisture should not exceed 68 percent. The percent of milk fat is not less than 20 percent of the percent of the neufchatel cheese in the mixture, but in no case should it be less than 16 percent by weight of the finished food. Finding 2 with respect to the foods which are added, the addition of water-retaining agents, and the addition of artificial coloring, is applicable to this class of food. Small amounts of sweetening agents may be added for flavor. The following substances are suitable for such use: sugar, dextrose, corn sugar, corn sirup, corn

sirup solids, maltose, malt sirup, and hydrolyzed lactose. An acidifying agent may be added in such amount that the pH of the finished food is not less than 4.0. The following acidifying agents are suitable: a vinegar, lactic acid, citric acid, acetic acid, and phosphoric acid. When the pH of the finished food is below 5.0 the acidifying agent has a preservative effect, and the label should so indicate (as required by section 403 (k) of the Federal Food, Drug, and Cosmetic Act). When vinegar alone is used to reduce the pH below 5.0 it is a preservative rather than a flavor and should be considered to be acetic acid. During the preparation of this food the mixture is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in paragraph (e) of § 19.500<sup>1</sup> a 0.25-gram portion shows a phenol equivalent of not more than 3 micrograms. The name of this food is "Neufchatel cheese spread with (and) \_\_\_\_\_," the blank being filled in with the name or names of the foods added, in order of predominance by weight. (R. 1818, 1822, 2225-2227, 2233-2235, 2273, 2327-2333, 2373, 2616-2617, 2643, 3116-3121, 4040-4042)

**Conclusions.** Upon consideration of the whole record and the foregoing findings of fact, it is concluded that the adoption of the following definitions and standards of identity for cream cheese with (and) other foods and neufchatel cheese spread with (and) other foods will promote honesty and fair dealing in the interest of consumers:

§ 19.782 *Cream cheese with (and) other foods; identity; label statement of optional ingredients.* (a) Cream cheese with other foods is the class of foods each of which is prepared by mixing, with or without the aid of heat, cream cheese with one or a mixture of two or more properly prepared foods (except other cheeses), such as fresh, cooked, canned, or dried fruits or vegetables; cooked or canned meat; relishes, pickles, or other foods suitable for blending with cream cheese. In any such food the weight of the cream cheese constitutes not less than 80 percent by weight of the mixture. It may also contain:

(1) One or any mixture of two or more of the following optional ingredients: gum karaya, gum tragacanth, carob bean gum, gelatin, guar gum, carboxymethylcellulose, carrageen, oat gum, algin (sodium alginate), algin derivative (propylene glycol ester of alginic acid). The total quantity of any such substances, including those contained in the cream cheese, is not more than 0.8 percent by weight of the finished food.

(2) Artificial coloring, unless such addition conceals damage or inferiority or makes the cream cheese or added food appear better or of greater value than it is.

(b) No water other than that contained in the ingredients is added, but the moisture content in no case is more than 60 percent. The percent of milk fat

is not less than 33 percent of the percent by weight of the cream cheese used, but in no case is it less than 27 percent of the finished food. Moisture and fat are determined by the methods prescribed in paragraph (c) of § 19.500, except that when the added food contains fat the method prescribed for the determination of fat is not applicable.

(c) The name of the food is "Cream cheese with \_\_\_\_\_," the blank being filled in with the common name or names of the fruits, vegetables, or meats or other foods added, in order of predominance by weight.

(d) The label shall bear the name of any of the optional water-retaining ingredients used, except that carob bean gum, gum karaya, gum tragacanth, guar gum, and oat gum, or mixtures of these may be named as "vegetable gum" or "vegetable gums," as the case may be.

(e) If artificial coloring is used, the label shall bear the statement "artificially colored," except that if the food added to the cream cheese is the only portion artificially colored the label shall bear the statement "\_\_\_\_\_ artificially colored," the blank being filled in with the name or names of the foods so colored.

(f) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.783 *Pasteurized neufchatel cheese spread with (and) other foods; identity; label statement of optional ingredients.* (a) (1) Pasteurized neufchatel cheese spread with other foods is the class of foods each of which is prepared by mixing, with the aid of heat, neufchatel cheese with one or a mixture of two or more properly prepared foods (except other cheeses), such as fresh, cooked, canned, or dried fruits or vegetables; cooked or canned meats; relishes, pickles, or other foods suitable for blending with neufchatel cheese. It may contain one or any mixture of two or more of the optional ingredients named in paragraph (b) of this section. In any such food the weight of the neufchatel cheese constitutes not less than 80 percent of the weight of the finished food.

(2) During its preparation the mixture is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in paragraph (e) of § 19.500 the phenol equivalent of 0.25 gm. of such food is not more than 3 micrograms.

(3) No water other than that contained in the ingredients used is added to this food, but the moisture content in no case is more than 68 percent. The percent of milk fat is not less than 20 percent of the percent of neufchatel cheese in the mixture, but in no case is it less than 16 percent by weight of the finished food.

(b) The optional ingredients referred to in paragraph (a) of this section are:

<sup>1</sup> See F. R. Doc. 50-7334, Title 21, Chapter I, *supra*.



(1) One or any mixture of two or more of the following: gum karaya, gum tragacanth, carob bean gum, gelatin, algin (sodium alginate), algin derivative (propylene glycol ester of alginic acid), guar gum carboxy-methylcellulose, carrageen, oat gum. The total quantity of any such substances, including that contained in the neufchatel cheese, is not more than 0.8 percent by weight of the finished food.

(2) Artificial coloring, unless such addition conceals damage or inferiority or makes the neufchatel cheese or added food appear better or of greater value than it is.

(3) An acidifying agent consisting of one or a mixture of two or more of the following, in such quantity that the pH of the food is not less than 4.0: a vinegar, acetic acid, lactic acid, citric acid, phosphoric acid.

(4) A sweetening agent consisting of one or a mixture of two or more of the following: sugar dextrose, corn sirup, corn sirup solids, maltose sirup, hydrolyzed lactose.

(c) The name of the food is "neufchatel cheese spread with \_\_\_\_\_," the blank being filled in with the common name or names of the foods added, in order of predominance by weight.

(d) The label shall bear the names of any of the optional ingredients used designated in paragraph (b) (1), (3), and (4) of this section, except that carob bean gum, gum karaya, gum tragacanth, guar gum, and not gum or mixtures of these may be named as "vegetable gum" or "vegetable gums," as the case may be.

(e) (1) If artificial coloring is used, the label shall bear the statement "artificially colored," except that if the food added to the neufchatel cheese is the only portion artificially colored, the label shall bear the statement "\_\_\_\_\_ artificially colored," the blank being filled in with the name or names of the foods so colored.

(2) If an optional acidifying agent is used so that the pH of the finished food is less than 5.0, there shall appear after its name the words "a chemical preservative." In case vinegar is the only acidifying agent added it shall be considered to be acetic acid when the pH of the finished food is less than 5.0. In case vinegar and other acidifying agents are used and the pH of the finished food is less than 5.0, only the name of the acidifying agents other than vinegar shall be followed by the statement "a chemical preservative."

(f) Wherever the name of the food appears on the label so conspicuously

as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

Any interested person whose appearance was filed at the hearing may, within 60 days from the date of publication of this tentative order in the FEDERAL REGISTER, file with the Hearing Clerk, Federal Security Agency, Room 5109, Federal Security Building, Fourth Street and Independence Avenue SW., Washington, D. C., written exceptions thereto. Exceptions shall point out with particularity the alleged errors in this tentative order and shall contain specific references to the pages of the transcript of the testimony or to the exhibits on which such exceptions are based. Such exceptions may be accompanied by a memorandum or brief in support thereof. Exceptions and accompanying memoranda or briefs shall be submitted in quintuplicate.

Dated: August 16, 1950.

[SEAL]

OSCAR R. EWING,  
Administrator.

[F. R. Doc. 50-7335; Filed, Aug. 23, 1950;  
8:47 a. m.]

## NOTICES

### DEPARTMENT OF THE INTERIOR

#### Office of the Secretary

[Order No. 2581]

#### ADMINISTRATIVE ASSISTANT SECRETARY

#### DELEGATION OF AUTHORITY

SECTION 1. *Delegation.* The Administrative Assistant Secretary may exercise all the authority of the Secretary of the Interior with respect to all matters in the field of administrative management. This field includes matters relating to budget, finance, personnel, management research, property management, and administrative services.

SEC. 2. *Redelegation.* The Administrative Assistant Secretary may, by issuing supplements to this order, redelegate to other officers or employees of the Department such portions of the authority granted in section 1 of this order as he may deem appropriate.

OSCAR L. CHAPMAN,  
Secretary of the Interior.

AUGUST 15, 1950.

[F. R. Doc. 50-7346; Filed, Aug. 23, 1950;  
8:45 a. m.]

### CIVIL AERONAUTICS BOARD

[Docket No. 4265]

#### AIR TRANSPORT ASSOCIATES, INC., ENFORCEMENT PROCEEDING

#### NOTICE OF HEARING

In the matter of the Revocation of Letter of Registration No. 1896 issued to Air Transport Associates, Inc.

Notice is hereby given pursuant to the Civil Aeronautics Act of 1938, as amended, and particularly sections 205 (a), 401 (a), 1001, 1002 (b) and 1002 (c) thereof, that a hearing in the above-entitled proceeding is assigned to be held on August 28, 1950, at 10:00 a. m., P. d. s. t., in the Chamber of Commerce Building, 215 Columbia Street, Seattle, Washington, before Examiner Warren E. Baker.

For further details, interested parties are referred to Board Order Serial No. E-3762 adopted December 28, 1949, and other papers on file in this proceeding in the Docket Section of the Board.

Without limiting the scope of the issues involved in this proceeding, particular attention is directed to the following matters and questions:

1. Has Respondent violated or is Respondent violating section 401 (a) of the Civil Aeronautics Act of 1938, as amended, and/or Part 291 (formerly § 292.1) of the Board's Economic Regulations?

2. If any such violations are established, were and are they knowing and willful?

3. If any such violations are established, whether knowing and willful or otherwise, should the Board issue an order to cease and desist or other order to compel compliance with the applicable provisions of the act and Part 291 of the Board's Economic Regulations?

4. If any such knowing and willful violations are established, should the Letter of Registration heretofore issued to the Respondent by the Board be revoked?

Notice is further given that any person other than the parties and interveners of record as of August 17, 1950 desiring to be heard in this proceeding may file with the Board on or before August 23, 1950, a statement setting forth the issues of fact and law raised by this proceeding which he desires to controvert and such person may appear and participate in the hearing in accordance with § 302.6 (a) of the Procedural Regulations under Title IV of the Civil Aeronautics Act, as amended.

Dated at Washington, D. C., August 18, 1950.

By the Civil Aeronautics Board.

[SEAL]

M. C. MULLIGAN,  
Secretary.

[F. R. Doc. 50-7366; Filed, Aug. 23, 1950;  
8:49 a. m.]

### FEDERAL POWER COMMISSION

[Docket No. G-1460]

#### MISSISSIPPI RIVER FUEL CORP.

#### NOTICE OF APPLICATION

AUGUST 17, 1950.

Take notice that on August 9, 1950, Mississippi River Fuel Corporation (Applicant), a Delaware corporation with its principal place of business in St. Louis, Missouri, filed an application for a certificate of public convenience and necessity pursuant to section 7 of the Natural Gas Act, as amended, seeking the following authority:

To utilize certain compression facilities of Southern Natural Gas Company at Perryville,



Louisiana pursuant to the terms of a contract entered into between Applicant and Southern Natural, and to install and operate related facilities.

Applicant alleges that there is presently available to it from the Monroe Field at a delivery pressure of 50 p. s. i., volumes of gas in excess of the compressing capacity of its Perryville Station No. 1, that to take these excess volumes, compress them to 425 p. s. i. and substantially comply with the provisions of its gas purchase contracts, Applicant will require additional compressing facilities. The proposed method of using such of Southern Natural's compressing facilities as may be available for compressing up to a maximum of 27,000 Mcf per day and the installation of related facilities will permit Applicant to receive the additional volumes which are available under the contracts with its Monroe producers at a fraction of the cost of installing similar facilities at its Perryville Station No. 1.

The estimated cost of the proposed installation is \$12,817.08, which Applicant proposes to finance out of cash on hand.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) before the 6th day of September, 1950. The application is on file with the Commission for public inspection.

[SEAL]

J. H. GUTRIDE,  
*Acting Secretary.*

[F. R. Doc. 50-7347; Filed, Aug. 23, 1950;  
8:47 a. m.]

[Docket No. G-1276]

EGYPTIAN NATURAL GAS CO.

NOTICE OF APPLICATION

AUGUST 18, 1950.

Notice is hereby given that on September 8, 1949, an application was filed by the Egyptian Natural Gas Company (Applicant), an Illinois corporation having its principal place of business at Salem, Illinois, pursuant to section 7 (a) of the Natural Gas Act, for an order of the Commission directing Texas Eastern Transmission Corporation (Texas Eastern), to permit Applicant to establish a physical connection with the transportation facilities of Texas Eastern and to require Texas Eastern to deliver to Egyptian Natural Gas Company an adequate supply of natural gas.

Applicant proposes to supply natural gas to existing and proposed gas utilities and municipalities in Illinois, which municipalities include Mt. Vernon, Centralia, Salem, Norris City, Dix, McLeansboro and Dalgren.

It is estimated that the requirements for the proposed service will approximate 5,000,000 cubic feet per day for the first year, which, it is expected, will increase to 20,000,000 cubic feet per day at the end of the first five years.

The Applicant previously filed on July 12, 1948, an application for a certificate of public convenience and necessity under section 7 (c) of the Natural Gas Act,

at Docket No. G-1077, requesting authorization to construct pipeline facilities consisting principally of 80 miles of 8-inch and 6-inch seamless steel pipe and metering and regulating stations.<sup>1</sup> In such application, the Applicant also seeks authorization to render the service herein referred to.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 and 1.10) on or before the 6th day of September 1950. The application is on file with the Commission for public inspection.

[SEAL]

J. H. GUTRIDE,  
*Acting Secretary.*

[F. R. Doc. 50-7348; Filed, Aug. 23, 1950;  
8:45 a. m.]

### GENERAL SERVICES ADMINISTRATION

COMMISSIONER OF PUBLIC BUILDINGS SERVICE

AMENDMENT TO DELEGATION OF AUTHORITY

Pursuant to the authority vested in me by sections 205 (d) and 307 of the Federal Property and Administrative Services Act of 1949 (Pub. Law 152, 81st Cong.), section 2 of Delegation of Authority, dated May 18, 1950 (15 F. R. 3166, F. R. Doc. 50-4436), is hereby amended to read as follows:

2. The authority delegated by paragraph 1 hereof may be redelegated by the Commissioner of Public Buildings Service, in part, as follows: To the Deputy Commissioner and to the Administrative Officer, the authority delegated in paragraph 1 a., b., d., e., f., g., h., and i.; to any Division Engineer, any Division Director, the Chief, Supply Section, Buildings Management Division, Assistant Chief, Supply Section, Buildings Management Division, and Executive Officer, Buildings Management Division, the authority delegated by paragraph 1 a., d., g., h., and by paragraph 1 b., when the aggregate amount involved does not exceed \$500.

This amendment shall be effective as of July 1, 1950.

Dated: August 16, 1950.

JESS LARSON,  
*Administrator.*

[F. R. Doc. 50-7367; Filed, Aug. 23, 1950;  
8:49 a. m.]

### INTERSTATE COMMERCE COMMISSION

[4th Sec. Application 25341]

IRON OR STEEL STAMPINGS FROM DETROIT, MICH., TO CHATTANOOGA, TENN.

APPLICATION FOR RELIEF

AUGUST 21, 1950.

The Commission is in receipt of the above-entitled and numbered applica-

<sup>1</sup> Notice of such application was published in the FEDERAL REGISTER on July 29, 1948 (13 F. R. 4365).

tion for relief from the long-and-short-haul provision of section 4 (1) of the Interstate Commerce Act.

Filed by: L. C. Schuldt, Alternate Agent, for and on behalf of carriers parties to his tariff I. C. C. No. 3772, pursuant to fourth-section order No. 9800.

Commodities involved: Blanks, stampings or unfinished shapes, iron or steel, carloads.

From: Detroit, Mich.

To: Chattanooga, Tenn.

Grounds for relief: Circuitous routes. Any interested person desiring the Commission to hold a hearing upon such application shall request the Commission in writing so to do within 15 days from the date of this notice. As provided by the general rules of practice of the Commission, Rule 73, persons other than applicants should fairly disclose their interest, and the position they intend to take at the hearing with respect to the application. Otherwise the Commission, in its discretion, may proceed to investigate and determine the matters involved in such application without further or formal hearing. If because of an emergency a grant of temporary relief is found to be necessary before the expiration of the 15-day period, a hearing, upon a request filed within that period, may be held subsequently.

By the Commission, Division 2.

[SEAL]

W. P. BARTEL,  
*Secretary.*

[F. R. Doc. 50-7361; Filed, Aug. 23, 1950;  
8:47 a. m.]

[4th Sec. Application 25340]

SALT CAKE FROM BATON ROUGE, LA., TO SOUTH ATLANTIC PORTS

APPLICATION FOR RELIEF

AUGUST 21, 1950.

The Commission is in receipt of the above-entitled and numbered application for relief from the long-and-short-haul provision of section 4 (1) of the Interstate Commerce Act.

Filed by: R. E. Boyle, Jr., Agent, for and on behalf of carriers parties to Agent C. A. Spaninger's tariff I. C. C. No. 1167.

Commodities involved: Salt cake, carloads.

From: Baton Rouge and North Baton Rouge, La.

To: South Atlantic ports.

Grounds for relief: Market competition.

Schedules filed containing proposed rates:

C. A. Spaninger's tariff I. C. C. No. 1167, Supplement 7.

Any interested person desiring the Commission to hold a hearing upon such application shall request the Commission in writing so to do within 15 days from the date of this notice. As provided by the general rules of practice of the Commission, Rule 73, persons other than applicants should fairly disclose their interest, and the position they intend to take at the hearing with respect to the application. Otherwise the Commission, in its discretion, may proceed to investigate and determine the matters



involved in such application without further or formal hearing. If because of an emergency a grant of temporary relief is found to be necessary before the expiration of the 15-day period, a hearing, upon a request filed within that period, may be held subsequently.

By the Commission, Division 2.

[SEAL]

W. P. BARTEL,  
Secretary.

[F. R. Doc. 50-7360; Filed, Aug. 23, 1950;  
8:47 a. m.]

[4th Sec. Application 25342]

ALUMINA FROM BAUXITE, ARK., TO  
PHOENIX, N. J.

APPLICATION FOR RELIEF

AUGUST 21, 1950.

The Commission is in receipt of the above-entitled and numbered application for relief from the long-and-short-haul provision of section 4 (1) of the Interstate Commerce Act.

Filed by: D. Q. Marsh, Agent, for and on behalf of carriers parties to his tariff I. C. C. No. 3908.

Commodities involved: Alumina, calcined or hydrated, carloads.

From: Bauxite, Ark.

To: Phoenix, N. J.

Grounds for relief: Competition with rail carriers and circuitous routes.

Schedules filed containing proposed rates: D. Q. Marsh's tariff I. C. C. No. 3908, Supplement 8.

Any interested person desiring the Commission to hold a hearing upon such application shall request the Commission in writing so to do within 15 days from the date of this notice. As provided by the general rules of practice of the Commission, Rule 73, persons other than applicants should fairly disclose their interest, and the position they intend to take at the hearing with respect to the application. Otherwise the Commission, in its discretion, may proceed to investigate and determine the matters involved in such application without further or formal hearing. If because of an emergency a grant of temporary relief is found to be necessary before the expiration of the 15-day period, a hearing, upon a request filed within that period, may be held subsequently.

By the Commission, Division 2.

[SEAL]

W. P. BARTEL,  
Secretary.

[F. R. Doc. 50-7362; Filed, Aug. 23, 1950;  
8:47 a. m.]

## SECURITIES AND EXCHANGE COMMISSION

[File No. 1-3111]

KNICKERBOCKER SHARES, INC.

NOTICE OF APPLICATION TO WITHDRAW FROM  
LISTING AND REGISTRATION, AND OF OP-  
PORTUNITY FOR HEARING

At a regular session of the Securities and Exchange Commission, held at its office in the city of Washington, D. C., on the 18th day of August A. D. 1950.

In the matter of The Knickerbocker Fund for the Diversification, Supervision and Safe-Keeping of Investments; File No. 1-3111.

Knickerbocker Shares, Inc., a corporation of the State of New Jersey (hereinafter referred to as the Applicant) as Sponsor of The Knickerbocker Fund for the Diversification, Supervision and Safe-keeping of Investments, pursuant to section 12 (d) of the Securities Exchange Act of 1934 and Rule X-12D2-1 (b) promulgated thereunder, has made application to withdraw from registration and listing on the Board of Trade in the City of Chicago the Shares of Beneficial Interest in The Knickerbocker Fund for the Diversification, Supervision and Safe-keeping of Investments.

The application alleges as the reason for withdrawing this security from registration and listing on the Chicago Board of Trade:

(1) The Knickerbocker Fund for the Diversification, Supervision and Safe-keeping of Investments (hereinafter referred to as the Fund) is an investment trust which was organized in 1938 in accordance with the provisions of a trust agreement, dated as of August 17, 1938, executed between the Applicant and Manufacturers Trust Company, as Trustee.

(2) The Fund is registered under the Investment Company Act of 1940 as a diversified, management, open-end investment company.

(3) The presently outstanding shares of beneficial interest in the Fund are now registered under the Securities Exchange Act of 1934 and listed on the Board of Trade of the City of Chicago.

(4) Pursuant to the provisions of the Securities Act of 1933 a registration statement on form S-5 has been filed with the Securities and Exchange Commission as of July 27, 1950, for an additional 1,000,000 shares of beneficial interest in the Fund.

(5) Such additional shares will be indistinguishable from those now registered and listed on the Chicago Board of Trade, with the result that the additional shares must be registered and listed on that exchange, or the shares presently registered and listed must be withdrawn from such registration and listing.

(6) An adequate market for the shares exists independent of the exchange market for the reason that under the trust agreement, the Trustee is obligated to pay the current liquidating price for shares surrendered to it for liquidation, and also for the reason that the Applicant as Sponsor although not obligated to do so, ordinarily maintains a bid for the shares at approximately the current liquidating price thereof.

(7) For the past five years, no instance of trading in the said shares on the Chicago Board of Trade has come to the notice of the Applicant; and to the best of its knowledge, information and belief no shares of beneficial interest in the Fund have been bought or sold on said exchange during that period.

Upon receipt of a request prior to September 12, 1950, from any interested person for a hearing in regard to terms to be imposed upon the delisting of this

security, the Commission will determine whether to set the matter down for hearing. Such request should state briefly the nature of the interest of the person requesting the hearing and the position he proposes to take at the hearing with respect to imposition of terms or conditions. In addition, any interested person may submit his views or any additional facts bearing on this application by means of a letter addressed to the Secretary of the Securities and Exchange Commission, Washington, D. C. If no one requests a hearing on this matter, this application will be determined by order of the Commission on the basis of the facts stated in the application, and other information contained in the official file of the Commission pertaining to the matter.

By the Commission.

[SEAL]

ORVAL L. DuBOIS,  
Secretary.

[F. R. Doc. 50-7352; Filed, Aug. 23, 1950;  
8:45 a. m.]

[File No. 812-673]

COMPOSITE BOND AND PREFERRED STOCK  
FUND, INC., ET AL

NOTICE OF APPLICATION

At a regular session of the Securities and Exchange Commission held at its office in the city of Washington, D. C., on the 18th day of August A. D. 1950.

In the matter of Composite Bond and Preferred Stock Fund, Inc., Composite Stock Fund, Inc., Murphey Favre, Inc., and Bond Research Corporation; File No. 812-673.

Notice is hereby given that Composite Bond and Preferred Stock Fund, Inc. ("Bond") and Composite Stock Fund, Inc. ("Stock"), open-end diversified management companies registered under the Investment Company Act of 1940, Murphey Favre, Inc. ("Murphey-Favre"), the principal underwriter of Bond and of Stock, and Bond Research Corporation ("Research"), the investment adviser of Bond and of Stock, have filed an application pursuant to section 6 (c) of the act for an order exempting from the provisions of section 11 (a) of the act certain proposed transactions by which the holders of shares of capital stock of each of the above named investment companies shall be offered the right to convert all or part of such shares into shares of capital stock of the other of such investment companies at such price below the public offering price but in excess of the net asset value of the shares of such other investment company as Murphey-Favre, the principal underwriter, from time to time shall determine. The proposed transactions would involve the making by each of the above-named registered open-end investment companies and Murphey-Favre, their principal underwriter, of offers to the holders of capital stock of each of such investment companies to exchange their shares of stock in one of such companies for shares of stock in the other of such companies on a basis other than the relative net asset values of the re-



spective securities to be exchanged and would be prohibited by section 11 (a) of the act, unless the terms of the offers have been approved by the Commission or are in accordance with such rules or regulations as the Commission may have prescribed in respect of such offers, or unless an exemption therefrom is granted pursuant to section 6 (c) of the act. The proposed transactions would also involve an offering of redeemable securities by the above-mentioned registered investment companies otherwise than "at a current public offering price described in the prospectus" within the meaning of section 22 (d) of the act, and such offering not being within any of the exceptions set forth in said section 22 (d) would be thereby prohibited unless an exemption therefrom is granted pursuant to section 6 (c) of the act.

It appears from the application that Bond and Stock are each fully-managed investment companies; that each has outstanding only a single class of capital stock; that Bond holds bonds and preferred stocks in proportions which are changeable from time to time in accordance with the management's appraisal of economic and market conditions; and that, while Stock's articles of incorporation permit investment in bonds, Preferred stocks, and Common stocks, it is Stock's policy to invest at least 90 percent of its assets (other than cash and government securities) in common and preferred stocks.

It further appears that as of December 31, 1949, Bond had net assets of \$2,732,798.06, and that as of April 1, 1950, Stock had net assets of \$513,550.76. Bond and Stock have identical officers and directors and the same investment adviser and the same principal underwriter. The investment adviser (Research) and the principal underwriter (Murphey-Favre) are owned and controlled by a group of six individuals of whom three are officers and directors and two are officers of Bond and of Stock. The sales load in the case of both of the above-named investment companies is 8.7 percent of net asset value except on single purchases in excess of \$10,000. It is the present intention of the Applicants that upon shares issued in such conversions a sales load of approximately 3.1 percent of net asset value will be charged.

For a more detailed statement of the matters of fact and law asserted, all interested persons are referred to said application which is on file in the offices of the Commission in Washington, D. C.

Notice is further given that an order granting the application, in whole or in part and upon such conditions as the Commission may see fit to impose, may be issued by the Commission at any time on or after September 1, 1950, unless prior thereto a hearing upon the application is ordered by the Commission, as provided in Rule N-5 of the rules and regulations promulgated under the act. Any interested person may, not later than August 31, 1950, at 5:30 p. m., submit to the Commission in writing his views or any additional facts bearing upon this application or the desirability of a hearing thereon or request the Commission in writing that a hearing be held

thereon. Any such communication or request should be addressed: Secretary, Securities and Exchange Commission, 425 Second Street NW., Washington 25, D. C., and should state briefly the nature of the interest of the person submitting such information or requesting a hearing, the reasons for such request, and the issues of fact or law raised by the application which he desires to controvert.

By the Commission.

[SEAL] ORVAL L. DuBOIS,  
Secretary.

[F. R. Doc. 50-7353; Filed, Aug. 23, 1950;  
8:45 a. m.]

[File Nos. 54-188, 70-2405]

**EASTERN UTILITIES ASSN. AND NEW  
ENGLAND ELECTRIC SYSTEM**

**ORDER APPROVING STEP ONE OF PLAN**

At a regular session of the Securities and Exchange Commission, held at its office in the city of Washington, D. C., on the 17th day of August A. D. 1950.

Eastern Utilities Associates ("EUA"), a registered holding company, having filed, pursuant to the provisions of section 11 (e) of the Public Utility Holding Company Act of 1935, an application for approval of a plan of reorganization for EUA and its subsidiary companies, Brockton Edison Company ("Brockton"), Blackstone Valley Gas & Electric Company ("Blackstone"), Fall River Electric Light Company ("Fall River") and Montaup Electric Company ("Montaup"), which plan is comprised of two parts, designated as Step One and Step Two;

New England Electric System ("NEES"), a registered holding company, having filed a declaration, pursuant to sections 12 (d) and 12 (f) of the act;

Step One of said plan providing that EUA will (a) purchase from NEES 118,161 shares of Fall River capital stock held by NEES for a cash consideration of \$7,680,465, subject to an adjustment for the difference between earnings and dividends declared from January 1, 1950 to the consummation date of said purchase, or approximately \$65 per share and (b) purchase, on the same basis, from the public holders of Fall River capital stock such additional shares of the 14,383 shares of such stock held by them as they will sell to EUA; and that for such purposes EUA will borrow on one-year 2½% notes up to \$9,375,000;

The Commission having consolidated the proceeding regarding the declaration of NEES with the foregoing proceeding under section 11 (e), having issued its notice of filing and notice of and order for hearing in said consolidated proceeding, hearings on Step One of said plan having been held, the record having been completed with respect to Step One of said plan and the declaration of NEES, and oral argument having been heard by the Commission;

The Commission being duly advised in the premises, having considered the record herein, and deeming it appropriate to grant the request of EUA that Step One

of said plan be separately considered and disposed of, and having this day issued its findings and opinion herein, finding that Step One of said plan is necessary and appropriate to effectuate the provisions of section 11 (b) of the act and is fair and equitable to the persons affected thereby, and that the proposed sale by NEES meets the applicable standards of the Act:

It is ordered, Pursuant to the applicable provisions of the act, that Step One of said plan, be, and the same hereby is approved, and that the declaration filed by NEES, pursuant to section 12 of the act, be, and the same hereby is permitted to become effective, this order to be effective forthwith upon issuance and subject to the conditions specified in Rule U-24 promulgated under the act.

It is further ordered, That jurisdiction be, and the same hereby is, reserved over all remaining aspects of the plan, and to entertain such further proceedings, to make such further findings and to take such further action as it may deem necessary to effectuate the provisions of section 11 (b).

By the Commission.

[SEAL] ORVAL L. DuBOIS,  
Secretary.

[F. R. Doc. 50-7354; Filed, Aug. 23, 1950;  
8:45 a. m.]

[File No. 70-2443]

**NEW ENGLAND GAS AND ELECTRIC ASSN.  
ET AL.**

**ORDER GRANTING APPLICATION AND PERMITTING DECLARATION TO BECOME EFFECTIVE**

At a regular session of the Securities and Exchange Commission, held at its office in the city of Washington, D. C., on the 18th day of August A. D. 1950.

In the matter of New England Gas and Electric Association, Plymouth County Electric Company, and Cape & Vineyard Electric Company; File No. 70-2443.

New England Gas and Electric Association ("Negea"), a registered holding company, and its wholly owned utility subsidiaries, Plymouth County Electric Company ("Plymouth"), and Cape & Vineyard Electric Company ("Cape"), having filed a joint application-declaration pursuant to the provisions of sections 6 (b), 9 and 10 of the Public Utility Holding Company Act of 1935 and Rule U-43 promulgated thereunder, with respect to the following proposed transaction:

Cape proposes to issue and sell to Negea 8,000 additional shares of its common capital stock of a par value of \$25 per share at a price of \$50 per share. Plymouth proposes to issue and sell to Negea 10,000 additional shares of its common capital stock of a par value of \$25 per share at a price of \$35 per share. The proceeds from the sale of the stock are to be used to reimburse the Plant Replacement Fund Assets accounts of Cape and Plymouth for amounts borrowed therefrom for the purpose of financing extensions, additions and improvements to their respective properties.



## NOTICES

[File No. 70-2454]

## NATIONAL FUEL GAS CO.

## NOTICE OF FILING

At a regular session of the Securities and Exchange Commission, held at its office in the city of Washington, D. C., on the 18th day of August A. D. 1950.

Notice is hereby given that a declaration has been filed with this Commission, pursuant to the Public Utility Holding Company Act of 1935, by National Fuel Gas Company ("National"), a registered holding company. Declarant has designated sections 9 (a) and 10 of the act as applicable to the proposed transaction.

Notice is further given that any interested person may, not later than September 5, 1950, at 5:30 p. m., e. d. s. t., request the Commission in writing that a hearing be held on such matter, stating the reasons for such request, the nature of his interest and the issues of fact or law raised by said declaration which he desires to controvert, or may request that he be notified if the Commission should order a hearing thereon. Any such request should be addressed: Secretary, Securities and Exchange Commission, 425 Second Street NW., Washington 25, D. C. At any time after September 5, 1950, said declaration, as filed or amended, may be permitted to become

effective as provided in Rule U-23 of the rules and regulations promulgated under the act, or the Commission may exempt such transactions as provided in Rule U-20 (a) and Rule U-100 thereof.

All interested persons are referred to said declaration, which is on file in the offices of this Commission, for a statement of the transactions therein proposed, and which are summarized as follows:

National as the holder of 52.53 percent of the outstanding common capital stock of its utility subsidiary, Pennsylvania Gas Company, proposes to purchase 24,000 shares of such stock from the Executors of the Estate of Mary C. Jefferson, deceased, at a net cost to National of \$18.50 per share. National also proposes to offer to purchase any other shares of such stock at the above price as may be tendered to it by any other stockholder of Pennsylvania Gas Company at any time within 20 days after the mailing of notice of such offer to said stockholders.

By the Commission.

[SEAL]

ORVAL L. DuBOIS,  
Secretary.[F. R. Doc. 50-7356; Filed, Aug. 23, 1950;  
8:46 a. m.]

Said joint application-declaration having been duly filed and notice of said filing having been duly given in the form and manner prescribed by Rule U-23 promulgated pursuant to said act, and the Commission not having received a request for hearing with respect to said joint application-declaration within the period specified in said notice, or otherwise, and not having ordered a hearing thereon; and

The Commission finding with respect to said joint application-declaration that the requirements of the applicable provisions of the act and rules thereunder are satisfied, and deeming it appropriate in the public interest and in the interest of investors and consumers that the said joint application-declaration be granted and permitted to become effective:

*It is ordered*, Pursuant to Rule U-23 and the applicable provisions of said act, that the said joint application-declaration be, and hereby is, granted and permitted to become effective forthwith subject to the terms and conditions prescribed in Rule U-24.

By the Commission.

[SEAL]

ORVAL L. DuBOIS,  
Secretary.[F. R. Doc. 50-7355; Filed, Aug. 23, 1950;  
8:45 a. m.]