

**CHAPTER 1535**  
**DEPARTMENT OF AGRICULTURE**  
**CHEESE AND CHEESE PRODUCTS**

**CHEESES; PROCESSED CHEESES; CHEESE FOODS; CHEESE SPREADS; RELATED FOODS**

|           |   |           |  |
|-----------|---|-----------|--|
| 1535.0020 | CHEDDAR CHEESE, CHEESE.   | 1535.0480 | CREAM CHEESE.                                |
| 1535.0030 | PROCEDURE.  | 1535.0490 | MANUFACTURING PROCEDURES.                    |
| 1535.0040 | DETERMINATION OF MOISTURE AND MILK FAT.   | 1535.0500 | OPTIONAL INGREDIENTS.                        |
| 1535.0050 | MOLD-INHIBITING INGREDIENT.   | 1535.0510 | DAIRY INGREDIENTS.                           |
| 1535.0060 | HYDROGEN PEROXIDE SOLUTION AND CATALASE PREPARATION.  | 1535.0520 | MILK, SKIM MILK, AND CONCENTRATED SKIM MILK. |
| 1535.0070 | REAGENTS.   | 1535.0530 | OPTIONAL INGREDIENTS LABELING.               |
| 1535.0080 | BARIUM BORATEHYDROXIDE BUFFER.  | 1535.0540 | NEUFCHATEL CHEESE.                           |
| 1535.0090 | COLOR-DEVELOPMENT BUFFER.   | 1535.0550 | MANUFACTURING PROCEDURES.                    |
| 1535.0100 | COLOR-DILUTION BUFFER.  | 1535.0560 | OPTIONAL INGREDIENTS.                        |
| 1535.0110 | STANDARD BORAX BUFFER.  | 1535.0570 | DAIRY INGREDIENTS.                           |
| 1535.0120 | BUFFER SUBSTRATES.  | 1535.0580 | MILK, SKIM MILK, AND CONCENTRATED SKIM MILK. |
| 1535.0130 | PROTEIN PRECIPITANTS.   | 1535.0590 | OPTIONAL INGREDIENTS LABELING.               |
| 1535.0140 | BQC (2, 6-DIBROMOQUINONE-CHLOROIMINE SOLUTION) (GIBBS' REAGENT).                                    | 1535.0600 | COTTAGE CHEESE.                              |
| 1535.0150 | OTHER REAGENTS.   | 1535.0610 | MANUFACTURING PROCEDURES.                    |
| 1535.0160 | PHENOL STANDARDS. SAMPLING  | 1535.0620 | DAIRY INGREDIENTS.                           |
| 1535.0170 | HARD CHEESE.  | 1535.0630 | SKIM MILK AND CONCENTRATED SKIM MILK.        |
| 1535.0180 | SOFT AND SEMISOFT RIPENED CHEESE.   | 1535.0640 | CREAMED COTTAGE CHEESE.                      |
| 1535.0190 | PROCESS CHEESE, SPREADS, ETC.   | 1535.0650 | CREAMING MIXTURE.                            |
| 1535.0200 | PRESERVATION.   | 1535.0660 | OTHER OPTIONAL INGREDIENTS.                  |
| 1535.0210 | CONDUCTING TEST.  | 1535.0680 | DEFINITIONS.                                 |
| 1535.0220 | DETERMINING AMOUNT OF BLUE COLOR.   | 1535.0690 | LABEL STATEMENTS.                            |
| 1535.0230 | DILUTION METHOD FOR QUANTITATIVE RESULTS.   | 1535.0700 | RICOTTA CHEESE.                              |
| 1535.0240 | CALCULATION AND EVALUATION OF RESULTS.  | 1535.0710 | PROCEDURE.                                   |
| 1535.0250 | PHOTOMETRIC DETERMINATION.  | 1535.0720 | MILK.  |
| 1535.0260 | PRECAUTIONS.  | 1535.0730 | MILK USED IN CHEESE LABELED "PASTEURIZED."   |
| 1535.0270 | MODIFICATIONS FOR DIFFERENT CHEESES   | 1535.0740 | ACIDIFYING AGENTS.                           |
| 1535.0280 | MODIFICATION OF CONCENTRATIONS OF REAGENTS.   | 1535.0750 | PART-SKIM RICOTTA CHEESE.                    |
| 1535.0290 | DEVIATIONS FROM OPTIMAL PH RANGE.   | 1535.0760 | GRANULAR CHEESE, STIRRED CURD CHEESE.        |
| 1535.0300 | USE OF CORRECT BUFFER.  | 1535.0770 | PROCEDURE.                                   |
| 1535.0310 | TEST ON COTTAGE CHEESE.   | 1535.0780 | MILK.  |
| 1535.0320 | TABLE 1; PHOSPHATASE TEST MODIFICATIONS FOR DIFFERENT KINDS OF CHEESE AND CHEESE OF DIFFERENT AGES. | 1535.0790 | OPTIONAL MOLD-INHIBITING INGREDIENT.         |
| 1535.0330 | OPTIONAL INGREDIENTS LABELING.  | 1535.0800 | OPTIONAL INGREDIENTS LABELING.               |
| 1535.0340 | IDENTITY OF CHEDDAR CHEESE FOR MANUFACTURING.   | 1535.0810 | GRANULAR CHEESE FOR MANUFACTURING.           |
| 1535.0350 | WASHED CURD CHEESE, SOAKED CURD CHEESE.   | 1535.0820 | SWISS CHEESE, EMMENTALER CHEESE.             |
| 1535.0360 | PROCEDURE.  | 1535.0830 | PROCEDURE.                                   |
| 1535.0370 | MILK.   | 1535.0840 | MILK.  |
| 1535.0380 | MILK USED IN CHEESE LABELED "PASTEURIZED."  | 1535.0850 | OPTIONAL MOLD-INHIBITING INGREDIENT.         |
| 1535.0390 | WASHED CURD CHEESE.   | 1535.0860 | OPTIONAL INGREDIENTS LABELING.               |
| 1535.0400 | OPTIONAL INGREDIENTS LABELING.  | 1535.0870 | SWISS CHEESE FOR MANUFACTURING.              |
| 1535.0410 | WASHED CURD CHEESE FOR MANUFACTURING.   | 1535.0880 | GRUYERE CHEESE.                              |
| 1535.0420 | COLBY CHEESE.   | 1535.0890 | PROCEDURE.                                   |
| 1535.0430 | PROCEDURE.  | 1535.0900 | MILK.  |
| 1535.0440 | MILK.   | 1535.0910 | OPTIONAL MOLD-INHIBITING INGREDIENT.         |
| 1535.0450 | MILK USED IN CHEESE LABELED "PASTEURIZED."  | 1535.0920 | OPTIONAL INGREDIENTS LABELING.               |
| 1535.0460 | MOLD-INHIBITING INGREDIENT.   | 1535.0930 | BRICK CHEESE.                                |
| 1535.0470 | OPTIONAL INGREDIENTS LABELING.  | 1535.0940 | PROCEDURE.                                   |
| 1535.0480 | IDENTITY OF COLBY CHEESE FOR MANUFACTURING.   | 1535.0950 | MILK.  |
|           |   | 1535.0960 | MILK USED IN CHEESE LABELED "PASTEURIZED."   |
|           |   | 1535.0970 | OPTIONAL MOLD-INHIBITING INGREDIENT.         |
|           |   | 1535.0980 | OPTIONAL INGREDIENTS LABELING.               |
|           |   | 1535.0990 | BRICK CHEESE FOR MANUFACTURING.              |
|           |   | 1535.1000 | MUENSTER CHEESE, MUNSTER CHEESE.             |
|           |   | 1535.1010 | PROCEDURE.                                   |
|           |   | 1535.1020 | MILK.  |

# MINNESOTA RULES 1989

815

## CHEESE AND CHEESE PRODUCTS

|           |  |           |  |
|-----------|--|-----------|--|
| 1535.1030 | MILK USED IN CHEESE LABELED "PASTEURIZED."   | 1535.1600 | PROCEDURE.   |
| 1535.1040 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.1610 | MILK.  |
| 1535.1050 | OPTIONAL INGREDIENTS LABELING.   | 1535.1620 | OPTIONAL MOLD-INHIBITING INGREDIENT.                     |
| 1535.1060 | EDAM CHEESE.   | 1535.1630 | OPTIONAL INGREDIENTS LABELING.                           |
| 1535.1070 | PROCEDURE.   | 1535.1640 | ASIAGO MEDIUM CHEESE.                                    |
| 1535.1080 | MILK.  | 1535.1650 | ASIAGO OLD CHEESE.                                       |
| 1535.1090 | MILK USED IN CHEESE LABELED "PASTEURIZED."   | 1535.1660 | COOK CHEESE, KOCH KAES.                                  |
| 1535.1100 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.1670 | PROCEDURE.   |
| 1535.1110 | OPTIONAL INGREDIENTS LABELING.   | 1535.1680 | OPTIONAL DAIRY INGREDIENTS.                              |
| 1535.1120 | GOUDA CHEESE.  | 1535.1690 | SAP SAGO CHEESE.   |
| 1535.1130 | BLUE CHEESE.   | 1535.1700 | PROCEDURE.   |
| 1535.1140 | PROCEDURE.   | 1535.1710 | GAMMELOST CHEESE.  |
| 1535.1150 | MILK.  | 1535.1720 | PROCEDURE.   |
| 1535.1160 | OPTIONAL INGREDIENTS LABELING.   | 1535.1730 | HARD CHEESES.  |
| 1535.1170 | GORGONZOLA CHEESE.   | 1535.1740 | PROCEDURE.   |
| 1535.1180 | PROCEDURE.   | 1535.1750 | MILK.  |
| 1535.1190 | MILK.  | 1535.1760 | MILK USED IN CHEESE LABELED "PASTEURIZED."               |
| 1535.1200 | OPTIONAL INGREDIENTS LABELING.   | 1535.1770 | OPTIONAL MOLD-INHIBITING INGREDIENT.                     |
| 1535.1210 | NUWORLD CHEESE.  | 1535.1780 | NAME.  |
| 1535.1220 | PROCEDURE.   | 1535.1790 | USE OF MILK OTHER THAN COW'S MILK.                       |
| 1535.1230 | MILK.  | 1535.1800 | OPTIONAL INGREDIENTS LABELING.                           |
| 1535.1240 | ROQUEFORT CHEESE; SHEEP'S MILK BLUE-MOLD CHEESE; BLUE-MOLD CHEESE FROM SHEEP'S MILK. | 1535.1810 | SEMISOFT CHEESES.  |
| 1535.1250 | PROCEDURE.   | 1535.1820 | PROCEDURE.   |
| 1535.1260 | MILK.  | 1535.1830 | MILK.  |
| 1535.1270 | LIMBURGER CHEESE.  | 1535.1840 | MILK USED IN CHEESE LABELED "PASTEURIZED."               |
| 1535.1280 | PROCEDURE.   | 1535.1850 | OPTIONAL MOLD-INHIBITING INGREDIENT.                     |
| 1535.1290 | MILK.  | 1535.1860 | NAME.  |
| 1535.1300 | MONTEREY CHEESE; MONTEREY JACK CHEESE.   | 1535.1870 | OPTIONAL INGREDIENTS LABELING.                           |
| 1535.1310 | PROCEDURE.   | 1535.1880 | SEMISOFT PART-SKIM CHEESES.                              |
| 1535.1320 | MILK.  | 1535.1890 | PROCEDURE.   |
| 1535.1330 | MILK USED IN CHEESE LABELED "PASTEURIZED."   | 1535.1900 | MILK.  |
| 1535.1340 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.1910 | MILK USED FOR CHEESE LABELED "PASTEURIZED."              |
| 1535.1350 | OPTIONAL INGREDIENTS LABELING.   | 1535.1920 | OPTIONAL MOLD-INHIBITING INGREDIENT.                     |
| 1535.1360 | HIGH-MOISTURE JACK CHEESE.   | 1535.1930 | NAME.  |
| 1535.1370 | PROVOLONE CHEESE; PASTA FILATA CHEESE.   | 1535.1935 | OPTIONAL INGREDIENTS LABELING.                           |
| 1535.1380 | PROCEDURE.   | 1535.1940 | SOFT RIPENED CHEESES.                                    |
| 1535.1390 | MILK.  | 1535.1950 | PROCEDURE.   |
| 1535.1400 | MILK USED IN CHEESE LABELED "PASTEURIZED."   | 1535.1960 | MILK.  |
| 1535.1410 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.1970 | MILK USED FOR CHEESE LABELED "PASTEURIZED."              |
| 1535.1420 | OPTIONAL INGREDIENTS LABELING.   | 1535.1980 | NAME.  |
| 1535.1430 | CACIOCAVALLO SICILIANO CHEESE.   | 1535.1990 | USE OF MILK OTHER THAN COW'S MILK.                       |
| 1535.1440 | PROCEDURE.   | 1535.2000 | SPICED CHEESES.  |
| 1535.1450 | MILK.  | 1535.2010 | PROCEDURE.   |
| 1535.1460 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.2015 | MILK.  |
| 1535.1470 | OPTIONAL INGREDIENTS LABELING.   | 1535.2020 | MILK USED FOR CHEESE LABELED "PASTEURIZED."              |
| 1535.1480 | PARMESAN CHEESE; REGGIANO CHEESE.  | 1535.2030 | OPTIONAL MOLD-INHIBITING INGREDIENT.                     |
| 1535.1490 | PROCEDURE.   | 1535.2040 | NAME.  |
| 1535.1500 | MILK.  | 1535.2050 | LABELING.  |
| 1535.1510 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.2060 | PART-SKIM SPICED CHEESES.                                |
| 1535.1520 | OPTIONAL INGREDIENTS LABELING.   | 1535.2070 | HARD GRATING CHEESES.                                    |
| 1535.1530 | ROMANO CHEESE.   | 1535.2080 | PROCEDURE.   |
| 1535.1540 | PROCEDURE.   | 1535.2090 | MILK.  |
| 1535.1550 | MILK.  | 1535.2100 | OPTIONAL MOLD-INHIBITING INGREDIENT.                     |
| 1535.1560 | OPTIONAL MOLD-INHIBITING INGREDIENT.   | 1535.2110 | NAME.  |
| 1535.1570 | VARIOUS NAMES FOR ROMANO CHEESE, ACCORDING TO INGREDIENTS.                           | 1535.2120 | LABELING.  |
| 1535.1580 | OPTIONAL INGREDIENTS LABELING.   | 1535.2130 | SKIM MILK CHEESE FOR MANUFACTURING.                      |
| 1535.1590 | ASIAGO FRESH CHEESE, ASIAGO SOFT CHEESE.   | 1535.2140 | PROCEDURE.   |
|           |  | 1535.2150 | OPTIONAL DAIRY INGREDIENTS.                              |
|           |  | 1535.2160 | SKIM MILK.   |
|           |  | 1535.2170 | PASTEURIZED PROCESS CHEESE.                              |
|           |  | 1535.2180 | PASTEURIZED PROCESSED CHEESE FROM SINGLE VARIETIES.      |
|           |  | 1535.2190 | PASTEURIZED PROCESSED CHEESE FROM TWO OR MORE VARIETIES. |
|           |  | 1535.2200 | DETERMINATION OF MOISTURE AND FAT.                       |

# MINNESOTA RULES 1989

## 1535.0020 CHEESE AND CHEESE PRODUCTS

816

|           |  |           |   |
|-----------|--|-----------|---|
| 1535.2210 | WEIGHT OF EACH VARIETY.  | 1535.2720 | OPTIONAL INGREDIENTS.   |
| 1535.2220 | CHEESES FOR MANUFACTURING.   | 1535.2730 | NAME.   |
| 1535.2230 | SMOKING.   | 1535.2740 | LABEL.  |
| 1535.2240 | EMULSIFYING AGENT.   | 1535.2750 | ARTIFICIAL COLORING LABELING.   |
| 1535.2250 | OPTIONAL INGREDIENTS.  | 1535.2760 | ACIDIFYING AGENT LABELING.  |
| 1535.2260 | OPTIONAL MOLD-INHIBITING INGREDIENT.                                 | 1535.2770 | OTHER OPTIONAL INGREDIENTS LABELING.  |
| 1535.2270 | NAME.  | 1535.2780 | COLD-PACK CHEESE, CLUB CHEESE, COMMUNUTED CHEESE.                                 |
| 1535.2280 | SMOKED PASTEURIZED PROCESS CHEESE.                                   | 1535.2790 | LABELING FOR COLD-PACK CHEESE FROM SINGLE VARIETY.                                |
| 1535.2290 | OPTIONAL MOLD-INHIBITING INGREDIENT.                                 | 1535.2800 | LABELING FOR COLD-PACK CHEESE FROM TWO OR MORE VARIETIES.                         |
| 1535.2300 | PASTEURIZED BLENDED CHEESE.  | 1535.2810 | MOISTURE AND FAT.   |
| 1535.2310 | PASTEURIZED PROCESS CHEESE WITH FRUITS, VEGETABLES, OR MEATS.        | 1535.2820 | WEIGHT.   |
| 1535.2320 | NAME.  | 1535.2830 | SMOKING.  |
| 1535.2330 | PASTEURIZED PROCESS PIMIENTO CHEESE.                                 | 1535.2840 | OPTIONAL INGREDIENTS.   |
| 1535.2340 | PASTEURIZED BLENDED CHEESE WITH FRUITS, VEGETABLES, OR MEATS.        | 1535.2850 | COLD-PACK CHEESE LABEL STATEMENTS.  |
| 1535.2350 | NAME.  | 1535.2860 | OPTIONAL INGREDIENTS LABELING.  |
| 1535.2360 | PASTEURIZED PROCESS CHEESE FOOD.                                     | 1535.2920 | COLD-PACK CHEESE FOOD.  |
| 1535.2370 | MOISTURE AND FAT CONTENTS.   | 1535.2930 | MOISTURE AND FAT CONTENTS.  |
| 1535.2380 | WEIGHT.  | 1535.2940 | WEIGHT.   |
| 1535.2390 | CHEESES FOR MANUFACTURING.   | 1535.2950 | SMOKING.  |
| 1535.2400 | SMOKING.   | 1535.2960 | OPTIONAL CHEESE INGREDIENTS.  |
| 1535.2410 | OPTIONAL CHEESE INGREDIENTS.   | 1535.2970 | OPTIONAL DAIRY INGREDIENTS.   |
| 1535.2420 | OPTIONAL DAIRY INGREDIENTS.  | 1535.2980 | OTHER OPTIONAL INGREDIENTS.   |
| 1535.2430 | OTHER OPTIONAL INGREDIENTS.  | 1535.2990 | GUAR GUM.   |
| 1535.2440 | OPTIONAL MOLD-INHIBITING INGREDIENT.                                 | 1535.3000 | OPTIONAL INGREDIENTS LABELING.  |
| 1535.2450 | LABEL.   | 1535.3090 | COLD-PACK CHEESE FOOD WITH FRUITS, VEGETABLES, OR MEATS.                          |
| 1535.2460 | OPTIONAL INGREDIENTS LABELING.                                       | 1535.3100 | NAME.   |
| 1535.2470 | PASTEURIZED PROCESS CHEESE FOOD WITH FRUITS, VEGETABLES, OR MEATS.   | 1535.3110 | WHEY CHEESE.  |
| 1535.2480 | NAME.  | 1535.3120 | GRATED AMERICAN CHEESE FOOD.  |
| 1535.2490 | PIMIENTO AS ONLY VEGETABLE INGREDIENT.                               | 1535.3130 | OPTIONAL CHEESE INGREDIENTS.  |
| 1535.2500 | PASTEURIZED PROCESS CHEESE SPREAD.                                   | 1535.3140 | OTHER OPTIONAL INGREDIENTS.   |
| 1535.2510 | MOISTURE AND MILKFAT CONTENTS.                                       | 1535.3150 | OPTIONAL INGREDIENTS LABELING.  |
| 1535.2520 | WEIGHT.  | 1535.3170 | SAMSOE CHEESE.  |
| 1535.2530 | CHEESES FOR MANUFACTURING.   | 1535.3180 | PROCEDURE.  |
| 1535.2540 | SMOKING.   | 1535.3190 | MILK.   |
| 1535.2550 | OPTIONAL CHEESE INGREDIENTS.   | 1535.3200 | MUENSTER CHEESE FOR MANUFACTURING, MUNSTER CHEESE FOR MANUFACTURING.              |
| 1535.2560 | OPTIONAL DAIRY INGREDIENTS.  | 1535.3210 | MOZZARELLA CHEESE; SCAMORZA CHEESE.   |
| 1535.2570 | EMULSIFYING AGENTS.  | 1535.3220 | PROCEDURE.  |
| 1535.2580 | OTHER OPTIONAL INGREDIENTS.  | 1535.3230 | MILK.   |
| 1535.2590 | OPTIONAL INGREDIENTS LABELING.                                       | 1535.3240 | PART-SKIM MOZZARELLA CHEESE, PART-SKIM SCAMORZA CHEESE.                           |
| 1535.2600 | PASTEURIZED CHEESE SPREAD.   | 1535.3250 | LOW MOISTURE MOZZARELLA CHEESE, LOW MOISTURE SCAMORZA CHEESE.                     |
| 1535.2610 | PASTEURIZED PROCESS CHEESE SPREAD WITH FRUITS, VEGETABLES, OR MEATS. | 1535.3260 | PROCEDURE.  |
| 1535.2620 | PASTEURIZED CHEESE SPREAD WITH FRUITS, VEGETABLES, OR MEATS.         | 1535.3270 | MILK.   |
| 1535.2640 | CREAM CHEESE WITH OTHER FOODS.                                       | 1535.3280 | OPTIONAL MOLD-INHIBITING INGREDIENT.  |
| 1535.2650 | MOISTURE AND FAT.  | 1535.3290 | LABEL STATEMENT OF OPTIONAL INGREDIENTS.  |
| 1535.2660 | NAME.  | 1535.3300 | LOW MOISTURE PART-SKIM MOZZARELLA CHEESE, LOW MOISTURE PART-SKIM SCAMORZA CHEESE. |
| 1535.2670 | OPTIONAL WATER-RETAINING INGREDIENTS.                                | 1535.3310 | OFFICIAL MOISTURE AND FAT TESTS.  |
| 1535.2680 | ARTIFICIAL COLORING.   | 1535.3320 | PHOSPHATASE TESTS, PHENOL MODIFICATIONS.  |
| 1535.2690 | OPTIONAL INGREDIENTS LABELING.                                       | 1535.3330 | PASTEURIZATION.   |
| 1535.2700 | PASTEURIZED NEUFCHATEL CHEESE SPREAD WITH OTHER FOODS.               |           |   |
| 1535.2710 | LIMITATIONS.   |           |   |

**CHEESES; PROCESSED CHEESES; CHEESE FOODS; CHEESE SPREADS; RELATED FOODS****1535.0020 CHEDDAR CHEESE, CHEESE.**

Cheddar cheese, cheese, is the food prepared from milk and other ingredients specified in parts 1535.0020 to 1535.3330 by the procedure set forth in part 1535.0030 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 part 1535.0030 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.0030 PROCEDURE.**

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 or other safe and suitable milk-clotting enzyme that produces equivalent curd formation, or both, 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.

**Statutory Authority:** *MS s 32.484*

**1535.0040 DETERMINATION OF MOISTURE AND MILK FAT.**

Determine moisture and milk fat by the method prescribed by part 1535.3310.

**Statutory Authority:** *MS s 32.484*

**1535.0050 MOLD-INHIBITING INGREDIENT.**

Cheddar cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

For the purposes of parts 1535.0020 to 1535.0320, 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used. All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed by part 1535.3330. Cheddar cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.0060 HYDROGEN PEROXIDE SOLUTION AND CATALASE PREPARATION.**

During the cheese-making process the milk may be treated with hydrogen peroxide solution followed by addition of a suitable catalase preparation to eliminate the hydrogen peroxide. The hydrogen peroxide solution shall comply with the specifications of the United States Pharmacopeia, except that it may exceed the concentration specified therein and it does not contain added preservative. The amount of the hydrogen peroxide solution used shall be such that the weight of the hydrogen peroxide added thereby does not exceed 0.05 percent of the weight of the milk treated. The catalase preparation used shall be stable, and in potency, for eliminating added hydrogen peroxide from milk, it shall not be less than equivalent to livercatalase preparation testing 100 Keil units per gram. It shall be either a preparation that is not a food additive within the meaning of section 201 (s) of the Federal Food, Drug, and Cosmetic Act, or a preparation that is a food additive but which is used in conformity with regulations promulgated pursuant to the authority of section 409 of the act. The amount of catalase preparation used shall be such that the weight of the catalase added thereby does not exceed 20 parts per million of the weight of the milk treated.

**Statutory Authority:** *MS s 32.484*

**1535.0070 REAGENTS.**

The method referred to in part 1535.0050 is as follows in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.0080 BARIUM BORATEHYDROXIDE BUFFER.**

Dissolve 25.0 grams 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 milliliters. Dissolve, in another flask or cylinder, 11.0 grams of c.p. boric acid ( $\text{H}_3\text{BO}_3$ ) and dilute to 500 milliliters. Warm each to 50 degrees Celsius (122 degrees Fahrenheit), mix the two together, stir, cool to approximately 20 degrees Celsius (68 degrees Fahrenheit), 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.

**Statutory Authority:** *MS s 32.484*

**1535.0090 COLOR-DEVELOPMENT BUFFER.**

Dissolve 6.0 grams of sodium metaborate ( $\text{NaBO}_2$ ) and 20 grams of sodium chloride in water and dilute to a liter with water (pH9.8).

**Statutory Authority:** *MS s 32.484*

**1535.0100 COLOR-DILUTION BUFFER.**

Dilute 100 milliliters of color development buffer 1-b to a liter with water.

**Statutory Authority:** *MS s 32.484*

**1535.0110 STANDARD BORAX BUFFER.**

Standard borax buffer, 0.01-molar, for checking pH Meter, pH 9.18 at 25 degrees Celsius. All pH values reported herein were determined at 25 degrees Celsius or corrected to that temperature.

Dissolve 0.9544 gram of pure borax (Bureau of Standards Sample 187) in distilled water (distilled recently or freshly boiled and cooled) and dilute to 250 milliliters. Keep stoppered tightly.

**Statutory Authority:** *MS s 32.484*

**1535.0120 BUFFER SUBSTRATES.**

Subpart 1. **For evaluating pasteurization.** Dissolve 0.10 gram of the phenyl

phosphate in 100 milliliters of the appropriate (part 1535.0310) barium boratehydroxide buffer (1) (aa).

Subp. 2. **For quantitative results with raw-milk cheese.** Dissolve 0.20 gram of the phenyl phosphate in 100 milliliters of the appropriate (part 1535.0310) barium boratehydroxide buffer (1) (aa).

**Statutory Authority:** *MS s 32.484*

#### 1535.0130 PROTEIN PRECIPITANTS.

Subpart 1. **Zinc-copper precipitant for unripened cheese.** Dissolve 6.0 grams of zinc sulfate ( $ZnSO_4 \cdot 7H_2O$ ) and 0.1 gram of copper sulfate ( $CuSO_4 \cdot 5H_2O$ ) in water and dilute to 100 milliliters with water. The precipitant prepared thus is designated as the 6.0-0.1 precipitant.

Subp. 2. **Zinc precipitant for ripened cheese.** Dissolve 6.0 grams of zinc sulfate in water and dilute to 100 milliliters with water. This precipitant is designated as the 6.0 precipitant.

**Statutory Authority:** *MS s 32.484*

#### 1535.0140 BQC (2, 6-DIBROMOQUINONE-CHLOROIMINE SOLUTION) (GIBBS' REAGENT).

Dissolve 40 milligrams of BQC powder in 10 milliliters 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.

**Statutory Authority:** *MS s 32.484*

#### 1535.0150 OTHER REAGENTS.

Subpart 1. **Copper sulfate, 0.05 percent for standards.** Dissolve 0.05 gram of copper sulfate in water and dilute to 100 milliliters.

Subp. 2. **Butyl alcohol.** Specify n-butyl alcohol, boiling point 116 to 118 degrees Celsius. To adjust the pH, mix 50 milliliters of the color development buffer (1) (bb) with a liter of the butyl alcohol.

**Statutory Authority:** *MS s 32.484*

#### 1535.0160 PHENOL STANDARDS.

Subpart 1. **Stock solution.** Weigh accurately 1.0 gram of pure phenol, transfer to a liter volumetric flask, dilute to a liter with water and mix. One milliliter contains one milligram (0.001 gram) of phenol. Use this stock solution to prepare standard solutions. It is stable for several months in the refrigerator.

Subp. 2. **Preparation of standards.** Dilute 10.0 milliliters of the stock solution to a liter with water and mix. One milliliter contains 10 micrograms (0.00001 gram, 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 milliliters to 100 milliliters 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 milliliters) 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 milliliter of 0.05 percent copper sulfate solution (5) (aa) to each.

Add 5.0 milliliters of color dilution buffer (1) (cc) and add water to bring the

**1535.0160 CHEESE AND CHEESE PRODUCTS**

820

volume to 10.0 milliliters. Add four drops (0.08 milliliter) 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 "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.

**Statutory Authority:** *MS s 32.484*

**SAMPLING**

**1535.0170 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.

**Statutory Authority:** *MS s 32.484*

**1535.0180 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:

Cut a portion from the end of the loaf or from the side of the cheese, extending in at least two inches if possible or to a point somewhat beyond the center in the case of a small cheese. Cut a slit one-quarter to one-half 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. 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 one-quarter 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.

**Statutory Authority:** *MS s 32.484*

**1535.0190 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.

**Statutory Authority:** *MS s 32.484*

**1535.0200 PRESERVATION.**

If a preservative is necessary, put one to three milliliters of chloroform in the container, cover with a plug of cotton, insert sample and stopper container tightly. Label preserved samples, "Poison - Preservative Added."

**Statutory Authority:** *MS s 32.484*

**1535.0210 CONDUCTING TEST.**

Weigh, on a clean balance pan or watch glass, a 0.50 gram sample (preferably two samples in duplicate) and place in a culture tube 16 or 18 by 150 millimeters. 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 one by one inch and insert the paper with the sample into the tube. Macerate the blank and the test with a glass rod about 8 by 180 millimeters.

Add to the blank 1.0 milliliter of the appropriate (part 1535.0310) barium

buffer (1) (aa) (without substrate added), macerate with the rod, leave the rod in the tube, heat for about a minute to at least 85 degrees Celsius (185 degrees Fahrenheit) in a beaker of boiling water with the beaker covered so that the entire tube becomes heated to approximately 85 degrees Celsius, cool to room temperature and macerate again with the rod.

Add to the test 1.0 milliliter of the appropriate (part 1535.0310) barium buffer substrate (2) (aa) or (2) (bb) and macerate.

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

Add 9.0 milliliters of the appropriate barium buffer substrate (2) (aa) or (2) (bb) (total, 10.0 milliliters 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 one by one 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.

Incubate in a water bath at 37 to 38 degrees Celsius (99 to 100 degrees Fahrenheit) for one hour, mixing or shaking the contents occasionally.

Place in a beaker of boiling water for nearly a minute, heating to 85 degrees Celsius (185 degrees Fahrenheit) and cool to room temperature.

Pipet in 1.0 milliliter of the zinc precipitant (3) (bb) for ripened cheese or the zinc-copper precipitant (3) (aa) for unripened cheese and mix thoroughly (pH of mixture, 9.0-9.1).

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

Add 5.0 milliliters of color development buffer (1) (bb) (pH of mixture, 9.3-9.4).

Add four drops of BQC (4), mix, and allow the color to develop for 30 minutes at room temperature. (For merely detecting underpasteurization, in testing unripened cheese, two drops is sufficient, provided the visual standards are prepared likewise with two drops.)

**Statutory Authority:** *MS s 32.484*

#### **1535.0220 DETERMINING AMOUNT OF BLUE COLOR.**

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

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. Visual standards. For quantitative results in borderline instances, e.g., tests yielding 0.5 to 5 units of color, extract with butyl alcohol (5) (bb). Add 5.0 milliliters 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.

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

**Statutory Authority:** *MS s 32.484*

#### **1535.0230 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 milliliters with color dilution



buffer (1) (cc) 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 two 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.

**Statutory Authority:** *MS s 32.484*

#### 1535.0240 CALCULATION AND EVALUATION OF RESULTS.

When using 0.5 gram of sample and adding a total of 11.0 milliliters of liquid, multiply the value of the reading by 1.1 to convert it to units of color or phenol equivalents per 0.25 gram of cheese. The result may, if desired, be converted to phenol equivalents per one gram by multiplying by 4.4.

**Statutory Authority:** *MS s 32.484*

#### 1535.0250 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 five 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 one-quarter inch thick from a rubber stopper of suitable diameter to fit in the bottom of the centrifuge cup. Glue together two cork stoppers. 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 four milliliters 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 five milliliters specified above.

**Statutory Authority:** *MS s 32.484*

#### 1535.0260 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.

**Statutory Authority:** *MS s 32.484*

# MINNESOTA RULES 1989

823

## CHEESE AND CHEESE PRODUCTS 1535.0310

### MODIFICATIONS FOR DIFFERENT CHEESES

#### 1535.0270 MODIFICATION OF CONCENTRATIONS OF REAGENTS.

Different kinds of cheese and cheeses of different ages have differing buffering capacities and therefore some of them require modification of concentrations of the reagents. The modifications of the barium buffer needed to produce optional 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 optional pH conditions (9.3-9.4), are specified in part 1535.0310.

**Statutory Authority:** *MS s 32.484*

#### 1535.0280 DEVIATIONS FROM OPTIMAL PH RANGE.

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 pherol 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.

**Statutory Authority:** *MS s 32.484*

#### 1535.0290 USE OF CORRECT BUFFER.

In testing cheese of unknown history of 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.

**Statutory Authority:** *MS s 32.484*

#### 1535.0300 TEST ON COTTAGE CHEESE.

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-gram sample, 27-11 buffer substrate, two-hour incubation and 6.0-0.1 precipitant.

**Statutory Authority:** *MS s 32.484*

#### 1535.0310 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 (9.85-10.20) | Precipitant          |
|--|--|------------------------------------|----------------------|
| Cheddar, granular, stirred curd, hard cheese | 1 week                                 | <sup>3</sup> 25-11                 | <sup>4</sup> 6.0-0.0 |
|  | 1 week - 1-1/2 months                  | 25-11                              | <sup>5</sup> 6.0     |
|  | 1-1/2 - 4 months                       | 26-11                              | 6.0                  |
|  | 4 months                               | 27-11                              | 6.1                  |
| Washed curd, soaked curd, colby              | 1 week                                 | 25-11                              | 6.0-0.0              |
|  | 1 week - 2 months                      | 25-11                              | 6.0                  |
|  | 2 months                               | 26-11                              | 6.0                  |

# MINNESOTA RULES 1989

## 1535.0310 CHEESE AND CHEESE PRODUCTS

824

|  |                       |             |         |
|--|-----------------------|-------------|---------|
| Swiss, gruyere   | 1 week                | 25-11       | 6.0-0.1 |
|  | 1 week - 1 month      | 25-11       | 6.1     |
|  | 1 - 3 months          | 26-11       | 6.0     |
|  | 3 months              | 27-11       | 6.0     |
| Brick, muenster  | 1 week                | 25-11       | 6.0-0.0 |
|  | 1 week - 1 month      | 25-11       | 6.1     |
|  | 1 - 2 months          | 25-11       | 6.0     |
|  | 2 months              | 26-11       | 6.0     |
| Edam, gouda  | 1 week                | 25-11       | 6.0-0.1 |
|  | 1 week - 2 months     | 25-11       | 6.0-0.1 |
|  | 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 - 4-1/2 months      | 27-11       | 6.0     |
|  | 4-1/2 months          | 28-11       | 6.0     |
| Camembert,<br>limburger  | 1 week                | 25-11       | 6.0-0.1 |
|  | 1 week - 1 month      | 25-11       | 6.0     |
|  | 1 - 2 months          | 26-11       | 6.0     |
|  | 2 months              | 27-11       | 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 - 2-1/2 months | 25-11       | 6.0     |
|  | 2-1/2 months          | 26-11       | 6.0     |
| Provolone, pasta<br>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,<br>reggiano, monte,<br>modena, romano,<br>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     |
|  | 1 year                | 29-11       | 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<br>cheese, koch<br>kaese                         | Dry                   | 25-11       | 6.0-0.1 |
|  | Moist                 | 625-11(8+2) | 4.5-0.1 |

# MINNESOTA RULES 1989

825

## CHEESE AND CHEESE PRODUCTS 1535.0320

|   |  |            |         |
|---|--|------------|---------|
| Cream cheese  |  | 25-11(7+3) | 6.0-0.1 |
| Semisoft cheese   | 1 week                                       | 25-11      | 6.0-0.1 |
|   | 1 week - 1 month                             | 25-11      | 6.0     |
|   | 1 month                                      | 26-11      | 6.0     |
| Soft ripened cheese   | 1 week                                       | 25-11      | 6.0-0.1 |
|   | 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 - 1-1/2 months                        | 25-11      | 6.0     |
|   | 1-1/2 - 4 months                             | 26-11      | 6.0     |
|   | 4 months                                     | 27-11      | 6.0     |
| Pasteurized process, pasteurized process pimiento, pasteurized process with fruits, meats, etc. | Soft, mild                                   | 25-11      | 6.0     |
|   | Medium, firm                                 | 26-11      | 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                  |            |         |
| Pasteurized process cheese spreads; pasteurized process cheese spreads with fruits, meats, etc. | Soft, high moisture, including cream spreads | 25-11      | 6.0     |
|   | Less soft, including blue                    | 26-11      | 6.0     |
| Cold-pack, club; cold-pack cheese foods; cold-pack cheese foods with fruits, meats, etc.        | Mild to medium flavored, soft                | 26-11      | 6.0     |
|   | Sharp, firm                                  | 27-11      | 6.0     |

<sup>3</sup>Grams  $B_a(OH)_2 \cdot 8H_2O$  and  $H_3BO_3$  per liter, respectively.

<sup>4</sup>Grams  $ZnSO_4 \cdot 7H_2O$  and  $CuSO_4 \cdot 5H_2O$  per 100 ml., respectively.

<sup>5</sup>Grams  $ZnSO_4 \cdot 7H_2O$  per 100 ml.

<sup>6</sup>8 parts of 25-11 buffer plus 2 parts water.

**Statutory Authority:** *MS s 32.484*

### 1535.0320 OPTIONAL INGREDIENTS LABELING.

If cheddar cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0050 the label shall bear the statement “\_\_\_ added to retard mold growth” or “\_\_\_ added as a preservative,” the blank being

filled in with the common name or names of the mold-inhibiting ingredient or ingredients used; e.g., "Sorbic acid and potassium sorbate added to retard mold growth."

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.0330 IDENTITY OF CHEDDAR CHEESE FOR MANUFACTURING.**

Cheddar cheese for manufacturing conforms to the definition and standard of identity prescribed for cheddar cheese by parts 1535.0020 to 1535.0320, except that the milk is not pasteurized, curing is not required, and the first paragraph of part 1535.0050 does not apply.

**Statutory Authority:** *MS s 32.484*

**1535.0340 WASHED CURD CHEESE, SOAKED CURD CHEESE.**

Washed curd cheese, soaked curd cheese, is the food prepared from milk and other ingredients specified in parts 1535.0340 to 1535.0390, by the procedure set forth in part 1535.0350, 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 part 1535.0350 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.0350 PROCEDURE.**

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, or other safe and suitable milk-clotting enzyme that produces equivalent curd formation, or both, 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.

**Statutory Authority:** *MS s 32.484*

**1535.0360 MILK.**

For the purposes of parts 1535.0340 to 1535.0390 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

**1535.0370 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Washed curd cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310. During the cheese-making process the milk may be treated as provided in part 1535.0060.

**Statutory Authority:** *MS s 32.484*

**1535.0380 WASHED CURD CHEESE.**

Washed curd cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.0390 OPTIONAL INGREDIENTS LABELING.**

If washed curd cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0380, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in parts 1535.0340 to 1535.0390, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.0400 WASHED CURD CHEESE FOR MANUFACTURING.**

Washed curd cheese for manufacturing conforms to the definition and standard of identity prescribed for washed curd cheese by parts 1535.0340 to 1535.0390, except that the milk is not pasteurized, curing is not required, and the provisions of part 1535.0380 do not apply.

**Statutory Authority:** *MS s 32.484*

**1535.0410 COLBY CHEESE.**

Colby cheese is the food prepared from milk and other ingredients specified in this rule by the procedure set forth in part 1535.0420 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 part 1535.0420 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.0420 PROCEDURE.**

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 or artificial coloring may be added. Sufficient rennet, or other safe and suitable milk-clotting enzyme that produces equivalent curd formation, or both, 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.0430 MILK.**

For the purposes of parts 1535.0410 to 1535.0460 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, water, in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

#### **1535.0440 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Colby cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310. During the cheese-making process the milk may be treated as provided in part 1535.0060.

**Statutory Authority:** *MS s 32.484*

#### **1535.0450 MOLD-INHIBITING INGREDIENT.**

Colby cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

#### **1535.0460 OPTIONAL INGREDIENTS LABELING.**

If Colby cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0450, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in parts 1535.0410 to 1535.0460, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.0470 IDENTITY OF COLBY CHEESE FOR MANUFACTURING.**

Colby cheese for manufacturing conforms to the definition and standard of identity prescribed for colby cheese by parts 1535.0410 to 1535.0460, except that the milk is not pasteurized, curing is not required, and the provisions of part 1535.0450 do not apply.

**Statutory Authority:** *MS s 32.484*

#### **1535.0480 CREAM CHEESE.**

Cream cheese is the soft uncured cheese prepared by the procedure set forth

in parts 1535.0490 to 1535.0520. The finished cream cheese contains not less than 33 percent of milk fat and not more than 55 percent of moisture, as determined by part 1535.3310.

**Statutory Authority:** *MS s 32.484*

#### **1535.0490 MANUFACTURING PROCEDURES.**

Cream or a mixture of cream with one or more of the dairy ingredients specified in part 1535.0510 is pasteurized and may be homogenized. To such cream or mixture, harmless lactic-acid-producing bacteria, with or without rennet, are added, and it is held until it becomes coagulated. The coagulated mass may be warmed; it may be stirred; it is then drained. The curd may be pressed, chilled, worked, seasoned with salt; it may be heated, with or without added cream or one or more of the dairy ingredients specified in part 1535.0510 or both, until it becomes fluid. It may then be homogenized or otherwise mixed.

In the preparation of cream cheese one or any mixture of two or more of the optional ingredients gum karaya, gum tragacanth, carob bean gum, guar gum, carrageenan, gelatin, algin, or propylene glycol alginate may be used; but the quantity of any such ingredient or mixture is such that the total weight of the solids contained therein is not more than 0.5 percent of the weight of the finished cream cheese.

**Statutory Authority:** *MS s 32.484*

#### **1535.0500 OPTIONAL INGREDIENTS.**

When one or more of the optional ingredients permitted in part 1535.0490 are used, dioctyl sodium sulfosuccinate may be used in a quantity not in excess of 0.5 percent by weight of such ingredients.

**Statutory Authority:** *MS s 32.484*

#### **1535.0510 DAIRY INGREDIENTS.**

The dairy ingredients referred to in part 1535.0490 are milk, skim milk, concentrated milk, concentrated skim milk, and nonfat dry milk. If concentrated milk, concentrated skim milk, or nonfat dry milk is used, water may be added in a quantity not in excess of that removed when the milk or skim milk was concentrated or dried.

**Statutory Authority:** *MS s 32.484*

#### **1535.0520 MILK, SKIM MILK, AND CONCENTRATED SKIM MILK.**

For the purposes of parts 1535.0480 to 1535.0530, the term "milk" means sweet milk of cows, "skim milk" means milk from which the milk fat has been separated, and "concentrated skim milk" means skim milk from which a portion of the water has been removed by evaporation.

**Statutory Authority:** *MS s 32.484*

#### **1535.0530 OPTIONAL INGREDIENTS LABELING.**

When an optional ingredient listed in part 1535.0490 is present in cream cheese, the label shall bear the statement "\_\_\_ Added" or "With Added\_\_\_," the blank being filled in with the word or words "vegetable gum," "carrageenan," "gelatin," "algin," or "propylene glycol alginate," or any combination of two or more of these, as the case may be. Wherever the name "Cream Cheese" appears on the label so conspicuously as to easily be seen under customary conditions of purchase, the statement specified in this part, showing the optional ingredients present shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*



**1535.0540 NEUFCHATEL CHEESE.**

Neufchatel cheese is the soft uncured cheese prepared by the procedure set forth in parts 1535.0550 to 1535.0580. The finished neufchatel cheese contains not less than 20 percent, but less than 33 percent of milk fat and not more than 65 percent of moisture, as determined by part 1535.3310.

**Statutory Authority:** *MS s 32.484*

**1535.0550 MANUFACTURING PROCEDURES.**

Milk or a mixture of cream with one or more of the dairy ingredients specified in part 1535.0570 or a mixture of concentrated milk with milk or with water not in excess of that removed when the milk was concentrated is pasteurized and may be homogenized. To such milk or mixture harmless lactic-acid-producing bacteria, with or without rennet, are added and it is held until it becomes coagulated. The coagulated mass may be warmed; it may be stirred; it is then drained. The curd may be pressed, chilled, worked, seasoned with salt; it may be heated, with or without added cream or one or more of the dairy ingredients specified in part 1535.0570 or both, until it becomes fluid and it may then be homogenized or otherwise mixed.

In the preparation of neufchatel cheese, one or any mixture of two or more of the optional ingredients gum karaya, gum tragacanth, carob bean gum, guar gum, carrageenan, gelatin, algin, or propylene glycol alginate may be used; but the quantity of any such ingredient or mixture is such that the total weight of the solids contained therein is not more than 0.5 percent of the weight of the finished neufchatel cheese.

**Statutory Authority:** *MS s 32.484*

**1535.0560 OPTIONAL INGREDIENTS.**

When one or more of the optional ingredients permitted in this subparagraph are used, dioctyl sodium sulfosuccinate may be used in a quantity not in excess of 0.5 percent by weight of such ingredients.

**Statutory Authority:** *MS s 32.484*

**1535.0570 DAIRY INGREDIENTS.**

The dairy ingredients referred to in part 1535.0550 are milk, skim milk, concentrated milk, concentrated skim milk, and nonfat dry milk. If concentrated milk, concentrated skim milk, or nonfat dry milk is used, water may be added in a quantity not in excess of that removed when the milk or skim milk was concentrated or dried.

**Statutory Authority:** *MS s 32.484*

**1535.0580 MILK, SKIM MILK, AND CONCENTRATED SKIM MILK.**

For the purposes of parts 1535.0540 to 1535.0590 the term "milk" means sweet milk of cows, "skim milk" means milk from which the milk fat has been separated, and "concentrated skim milk" means skim milk from which a portion of the water has been removed by evaporation.

**Statutory Authority:** *MS s 32.484*

**1535.0590 OPTIONAL INGREDIENTS LABELING.**

When an optional ingredient listed in part 1535.0550 is present in neufchatel cheese, the label shall bear the statement "\_\_\_ Added" or "With Added \_\_\_," the blank being filled in with the word or words "vegetable gum," "carrageenan," "gelatin," "algin," or "Propylene glycol alginate," or any combination of two or more of these, as the case may be. Wherever the name "Neufchatel Cheese" appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in this part, showing the optional ingredients present, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.0600 COTTAGE CHEESE.**

Cottage cheese is the soft uncured cheese prepared by the procedure set forth in parts 1535.0610 to 1535.0630. The finished cottage cheese contains not more than 80 percent of moisture, as determined by the method prescribed under "Moisture — Official," on page 247 of "Official Methods of Analysis of the Association of Official Agricultural Chemists," tenth edition (1965) section 15.157.

**Statutory Authority:** *MS s 32.484*

**1535.0610 MANUFACTURING PROCEDURES.**

One or more of the dairy ingredients specified in part 1535.0620 is pasteurized. Calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of the mix; harmless lactic-acid-producing bacteria, with or without rennet, are added, and it is held until it becomes coagulated. The coagulated mass may be cut; it may be warmed; it may be stirred; it is then drained. The curd may be washed with water and further drained; it may be pressed, chilled, worked, seasoned with salt.

**Statutory Authority:** *MS s 32.484*

**1535.0620 DAIRY INGREDIENTS.**

The dairy ingredients referred to in part 1535.0610 are sweet skim milk, concentrated skim milk, and nonfat dry milk. If concentrated skim milk or nonfat dry milk is used, water may be added in a quantity not in excess of that removed when the skim milk was concentrated or dried.

**Statutory Authority:** *MS s 32.484*

**1535.0630 SKIM MILK AND CONCENTRATED SKIM MILK.**

For the purposes of part 1535.0620, the term "skim milk" means the milk of cows from which the milk fat has been separated and "concentrated skim milk" means skim milk from which a portion of the water has been removed by evaporation.

**Statutory Authority:** *MS s 32.484*

**1535.0640 CREAMED COTTAGE CHEESE.**

Creamed cottage cheese is the soft uncured cheese prepared by mixing cottage cheese with a creaming mixture as provided for in parts 1535.0650 and 1535.0660. The creaming mixture is used in such quantity that the milk fat added thereby is not less than four percent by weight of the finished creamed cottage cheese. The finished creamed cottage cheese contains not more than 80 percent of moisture, as determined by the method prescribed in part 1535.0600.

**Statutory Authority:** *MS s 32.484*

**1535.0650 CREAMING MIXTURE.**

The creaming mixture consists of cream or a mixture of cream with milk or skim milk or both, to which one or more of the following optional ingredients may be added, subject to the conditions set forth in this part:

A. salt;

B. nonfat dry milk, concentrated skim milk, sodium caseinate, ammonium caseinate, potassium caseinate, or dried milk protein may be added singly or in any combination to adjust the solids content, provided the weight of the solids added thereby does not exceed three percent of the weight of the creaming mixture;

C. a culture of harmless lactic acid and flavor-producing bacteria, with or without rennet;

D. a preparation of pasteurized skim milk or cottage cheese whey with added citric acid or sodium citrate, which preparation has been cultured with harmless flavor- and aroma-producing bacteria;

E. lactic acid, citric acid, phosphoric acid; and

F. singly or in combination: diacetyl, starter distillate, or other safe and suitable flavoring substances which contribute to the characteristic flavor and aroma associated with the food.

**Statutory Authority:** *MS s 32.484*

#### 1535.0660 OTHER OPTIONAL INGREDIENTS.

A stabilizing ingredient consisting of one or any mixture of two or more of the following: carob (locust) bean gum, guar gum, gum karaya, gum tragacanth, calcium sulfate; carrageenan or salts of carrageenan complying with the requirements of sections 121.1066 and 121.1067 of chapter 4, federal Food, Drug and Cosmetic Act; furcelleran or salts of furcelleran, complying with the requirements of sections 121.1068 and 121.1069 of chapter 4, federal Food, Drug and Cosmetic Act; gelatin, lecithin, algin (sodium alginate), propylene glycol alginate, sodium carboxymethylcellulose (cellulose gum).

Stabilizing ingredients used may be added in a mixture with a carrier consisting of one or any mixture of two or more of the following: sugar, dextrose, corn syrup solids, dextrin, glycerin, propylene glycol. The quantity of the stabilizing ingredient, including any carrier used, is such that the weight of solids contained therein is not more than 0.5 percent of the weight of the creaming mixture.

When one or more of the optional ingredients in the first paragraph of this part are used, dioctyl sodium sulfosuccinate, complying with the requirements of section 121.1137 of chapter 4, federal Food, Drug and Cosmetic Act, may be used in a quantity not in excess of 0.5 percent by weight of such ingredients. The creaming mixture is pasteurized, except that the bacterial cultures permitted by parts 1535.0650 and 1535.0660 and the acids listed in part 1535.0650, item E may be added after pasteurization.

**Statutory Authority:** *MS s 32.484*

#### 1535.0680 DEFINITIONS.

Subpart 1. **Applicability.** For the purposes of parts 1535.0650 and 1535.0660 the following terms have the meanings given them.

Subp. 2. **Milk, skim milk, concentrated skim milk.** "Milk" means sweet milk of cows; "skim milk" means milk from which the milkfat has been separated; and "concentrated skim milk" means skim milk from which a portion of the water has been removed by evaporation.

Subp. 3. **Sodium caseinate, ammonium caseinate, calcium caseinate, and potassium caseinate.** "Sodium caseinate," "ammonium caseinate," "calcium caseinate," and "potassium caseinate" mean the dried form of the reaction product resulting from treating casein precipitated from skim milk with a suitable alkali in such a manner that no excess alkali is present, as determined by a pH of not more than 8.0 in a two percent solution at 25 degrees Celsius.

Subp. 4. **Dried milk protein.** "Dried milk protein" means the dried form of the reaction product resulting from treating coprecipitates of milk proteins of which casein and lactalbumin are the constituents of major content with a suitable alkali in such manner that no excess of alkali is present, as determined by a pH of not more than 8.0 in a two percent solution at 25 degrees Celsius.

**Statutory Authority:** *MS s 32.484*

#### 1535.0690 LABEL STATEMENTS.

When one or a mixture of two or more of the optional ingredients listed in part 1535.0650, item E, the first paragraph of part 1535.0660, and part 1535.0680, subparts 3 and 4, is used, the label shall bear the statement "\_\_\_ added" or "with added \_\_\_," the blank being filled in with the common name or names of the

optional ingredients used; provided, however, that the name "vegetable gum" may be used in lieu of the specific names for carob locust bean gum, guar gum, gum karaya, and gum tragacanth.

When any ingredient named under part 1535.0650, item F is used, the label shall bear the statement "artificially flavored" or "artificial flavor added" or "with added artificial flavoring."

Wherever the name "creamed cottage cheese" appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the label declarations prescribed in this part showing the optional ingredients present shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.0700 RICOTTA CHEESE.**

Ricotta cheese is the food prepared from heated milk and other ingredients specified in parts 1535.0700 to 1535.0740, by the procedure set forth in part 1535.0710 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 part 1535.0710 is used. It contains not more than 80 percent of moisture and not less than 11 percent of milk fat, as determined by the methods prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

#### **1535.0710 PROCEDURE.**

Milk, which may be warmed or pasteurized or both and which may be clarified or homogenized or both, is mixed with an acidifying agent prescribed by part 1535.0740. Salt may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity of not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) may be added to set the milk. The mixture is heated until a temperature of about 180 degrees Fahrenheit is reached and it is held near that temperature until the curd separates. The curd is removed by skimming or the whey is drained or siphoned off. The curd is placed in perforated containers to permit further drainage. The containers may be placed in cold water for cooling. They are then removed from the water for further drainage. Additional curd may be obtained from the whey by the further addition of an acidifying agent prescribed by part 1535.0740 or by further heating or both. The curd may be whipped or beaten to obtain a finer texture.

**Statutory Authority:** *MS s 32.484*

#### **1535.0720 MILK.**

For the purposes of parts 1535.0700 to 1535.0740 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, water in sufficient quantity to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

#### **1535.0730 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Ricotta cheese shall be deemed not to have been prepared from properly pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms, when tested by the method prescribed in parts 1535.0070 to 1535.0310, moist cottage cheese modification.

**Statutory Authority:** *MS s 32.484*

**1535.0740 ACIDIFYING AGENTS.**

The acidifying agents prescribed in part 1535.0710 are one or a mixture of two or more of the following: culture of harmless lactic-acid-producing bacteria, a vinegar, fermented whey, lactic acid, and citric acid.

**Statutory Authority:** *MS s 32.484*

**1535.0750 PART-SKIM RICOTTA CHEESE.**

Part-skim ricotta cheese conforms to the definition and standard of identity prescribed by parts 1535.0700 to 1535.0740 for ricotta cheese, except that it contains less than 11 percent of milk fat, but not less than six percent.

**Statutory Authority:** *MS s 32.484*

**1535.0760 GRANULAR CHEESE, STIRRED CURD CHEESE.**

Granular cheese, stirred curd cheese, is the food prepared from milk and other ingredients specified in parts 1535.0760 to 1535.0800, by the procedure set forth in part 1535.0770 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 part 1535.0770 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.0770 PROCEDURE.**

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, or other safe and suitable milk-clotting enzyme that produces equivalent curd formation, or both, 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.

**Statutory Authority:** *MS s 32.484*

**1535.0780 MILK.**

For the purposes of parts 1535.0760 to 1535.0800 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, water in a quantity sufficient to reconstitute any concentrated skim milk, or nonfat dry milk used. All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. During the cheese-making process the milk may be treated as provided in part 1535.0060.

**Statutory Authority:** *MS s 32.484*

**1535.0790 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Granular cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassi-

um sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

#### **1535.0800 OPTIONAL INGREDIENTS LABELING.**

If granular cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0790, the label shall bear the statement “\_\_\_ added to retard mold growth” or “\_\_\_ added as a preservative,” the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.0810 GRANULAR CHEESE FOR MANUFACTURING.**

Granular cheese for manufacturing conforms to the definition and standard of identity prescribed for granular cheese by parts 1535.0760 to 1535.0800, except that the milk is not pasteurized, curing is not required, and the provisions of part 1535.0790 do not apply.

**Statutory Authority:** *MS s 32.484*

#### **1535.0820 SWISS CHEESE, EMMENTALER CHEESE.**

Swiss cheese, emmentaler cheese, is the food prepared from milk and other ingredients specified in parts 1535.0820 to 1535.0860, by the procedure set forth in part 1535.0830 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 part 1535.0830 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 part 1535.0040. It is not less than 60 days old.

**Statutory Authority:** *MS s 32.484*

#### **1535.0830 PROCEDURE.**

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 also may be added. Authorized artificial coloring may be added. Sufficient rennet, or other safe and suitable milk-clotting enzyme that produces equivalent curd formation, or both, 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 degrees Fahrenheit. 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 three days. It is then held at a temperature of about 50 to 60 degrees Fahrenheit for a period of five to ten days, after which it is held at a temperature of about 75 degrees Fahrenheit 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.

**Statutory Authority:** *MS s 32.484*

**1535.0840 MILK.**

For the purposes of parts 1535.0820 to 1535.0860, 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. 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 bleached, and the weight of potassium alum, calcium sulfate, and magnesium carbonate, singly or combined, is not more than six times the weight of the benzoyl peroxide used. If the milk is bleached in this manner, sufficient vitamin A is added to the curd to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used. During the cheese-making process the milk may be treated as provided in part 1535.0060.

**Statutory Authority:** *MS s 32.484*

**1535.0850 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Swiss cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.0860 OPTIONAL INGREDIENTS LABELING.**

If swiss cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0850, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.0870 SWISS CHEESE FOR MANUFACTURING.**

Swiss cheese for manufacturing conforms to the definition and standard of identity prescribed for swiss cheese by parts 1535.0820 to 1535.0860 except that the holes or eyes, have not developed throughout the entire cheese and the provisions of part 1535.0850 do not apply; however, the labeling requirements of the second paragraph of part 1535.0860 do apply.

**Statutory Authority:** *MS s 32.484*

**1535.0880 GRUYERE CHEESE.**

Gruyere cheese is the food prepared from milk and other ingredients specified in parts 1535.0880 to 1535.0920, by the procedure set forth in part 1535.0890, or by another procedure which produces a finished cheese having the same physical and chemical properties as the cheese produced when the procedure set

# MINNESOTA RULES 1989

837

## CHEESE AND CHEESE PRODUCTS 1535.0920

forth in part 1535.0890 is used. It contains not more than 39 percent of moisture and its solids contain not less than 45 percent milk fat, as determined by the methods prescribed in part 1535.0040. 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.

**Statutory Authority:** *MS s 32.484*

### 1535.0890 PROCEDURE.

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 also 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 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 degrees Fahrenheit. 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 degrees Fahrenheit to 54 degrees Fahrenheit for a few days. It is soaked for one day in a saturated salt solution. It is then held for three weeks in a salting cellar and wiped every two days with brine cloth to ensure 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 degrees Fahrenheit, 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.

**Statutory Authority:** *MS s 32.484*

### 1535.0900 MILK.

For the purposes of parts 1535.0880 to 1535.0920, 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.

**Statutory Authority:** *MS s 32.484*

### 1535.0910 OPTIONAL MOLD-INHIBITING INGREDIENT.

Gruyere cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

### 1535.0920 OPTIONAL INGREDIENTS LABELING.

If gruyere cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0910, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*



**1535.0930 BRICK CHEESE.**

Brick cheese is the food prepared from milk and other ingredients specified in parts 1535.0930 to 1535.0980, by the procedure set forth in part 1535.0940 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 parts 1535.0940 to 1535.0960 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.0940 PROCEDURE.**

Milk, which may be pasteurized or clarified or both, is brought to a temperature of about 88 degrees Fahrenheit, 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 approximately three-eighths inch long and stirred and heated so that the temperature rises slowly to about 96 degrees Fahrenheit. 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.

**Statutory Authority:** *MS s 32.484*

**1535.0950 MILK.**

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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

**1535.0960 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Brick cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than five micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.0970 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Brick cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.0980 OPTIONAL INGREDIENTS LABELING.**

If brick cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.0970 the label shall bear the statement “\_\_\_ added to retard mold growth” or “\_\_\_ added as a preservative,” the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.0990 BRICK CHEESE FOR MANUFACTURING.**

Brick cheese for manufacturing conforms to the definition and standard of identity prescribed for brick cheese by parts 1535.0930 to 1535.0980, except that the milk is not pasteurized, curing is not required, and the provisions of part 1535.0970 do not apply.

**Statutory Authority:** *MS s 32.484*

**1535.1000 MUENSTER CHEESE, MUNSTER CHEESE.**

Muenster cheese, munster cheese, is the food prepared from pasteurized milk and other ingredients specified in parts 1535.1000 to 1535.1050 by the procedure set forth in part 1535.1010 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 part 1535.1010 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 part 1535.0040.

**Statutory Authority:** *MS s 32.484*

**1535.1010 PROCEDURE.**

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 dilution 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.

**Statutory Authority:** *MS s 32.484*

**1535.1020 MILK.**

For the purposes of parts 1535.1000 to 1535.1050 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

**1535.1030 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Muenster cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.1040 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Muenster cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1050 OPTIONAL INGREDIENTS LABELING.**

If muenster cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1040, the label shall bear the statement "added to retard mold growth" or "added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1060 EDAM CHEESE.**

Edam cheese is the food prepared from milk and other ingredients specified in parts 1535.1060 to 1535.1110 by the procedure set forth in part 1535.1070 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 part 1535.1070 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days. Edam cheese is made in ball or loaf shapes and the surface is covered with a paraffin or other tightly adhering coating. The covering or coating may be natural in color or may be colored red or any other color.

**Statutory Authority:** *MS s 32.484*

**1535.1070 PROCEDURE.**

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 three-eighths inch long. The mass is stirred and heated to about 90 degrees Fahrenheit 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 desired 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

# MINNESOTA RULES 1989

841

## CHEESE AND CHEESE PRODUCTS 1535.1130

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.

**Statutory Authority:** *MS s 32.484*

### **1535.1080 MILK.**

For the purposes of parts 1535.1060 to 1535.1110 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

### **1535.1090 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Edam cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 and 1535.0310.

**Statutory Authority:** *MS s 32.484*

### **1535.1100 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Edam cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

### **1535.1110 OPTIONAL INGREDIENTS LABELING.**

If edam cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1100, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

### **1535.1120 GOUDA CHEESE.**

Gouda cheese conforms to the definition and standard of identity and complies with the requirement for label declaration of optional ingredients prescribed for edam cheese by parts 1535.1060 to 1535.1110 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.

**Statutory Authority:** *MS s 32.484*

### **1535.1130 BLUE CHEESE.**

Blue cheese is the food prepared from milk and other ingredients specified in parts 1535.1130 to 1535.1160 by the procedure set forth in part 1535.1140 or by another procedure which produces a finished cheese having the same physical

## 1535.1130 CHEESE AND CHEESE PRODUCTS

842

and chemical properties as the cheese produced when the procedure set forth in part 1535.1140 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 part 1535.0040. It is not less than 60 days old.

**Statutory Authority:** *MS s 32.484*

## 1535.1140 PROCEDURE.

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 degrees Fahrenheit, 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. The rind of the cheese may be coated with a vegetable food fat or oil (which may be hydrogenated), or any combination of two or more such articles. 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.

**Statutory Authority:** *MS s 32.484*

## 1535.1150 MILK.

For the purposes of parts 1535.1130 to 1535.1160 the word "milk" means cow's milk. 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. 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 this part, concentrated skim milk, nonfat dry milk, water sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

## 1535.1160 OPTIONAL INGREDIENTS LABELING.

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

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 prescribed by the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1170 GORGONZOLA CHEESE.**

Gorgonzola cheese is the food prepared from cow's milk or goat's milk or mixtures of these and other ingredients specified in parts 1535.1170 to 1535.1200 by the procedure set forth in part 1535.1180 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 part 1535.1180 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 solids contain not less than 50 percent milk fat, as determined by the methods prescribed in part 1535.0040. It is not less than 90 days old.

**Statutory Authority:** *MS s 32.484*

**1535.1180 PROCEDURE.**

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 degrees Fahrenheit 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. The rind of the cheese may be coated with a vegetable food fat or oil (which may be hydrogenated), or any combination of two or more such articles. A harmless preparation of enzymes of animals 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.

**Statutory Authority:** *MS s 32.484*

**1535.1190 MILK.**

For the purposes of parts 1535.1170 to 1535.1200 the word "milk" means cow's milk or goat's milk or mixtures of these. 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. 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 this part, concentrated skim milk, nonfat dry milk; (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 used.

**Statutory Authority:** *MS s 32.484*

**1535.1200 OPTIONAL INGREDIENTS LABELING.**

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

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 prescribed by the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1210 NUWORLD CHEESE.**

Nuworld cheese is the food prepared from milk and other ingredients specified in parts 1535.1210 to 1535.1230, by the procedure set forth in part 1535.1220 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 part 1535.1220 is used. It is characterized by the presence of creamy white mold throughout the cheese. 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 part 1535.0040. It is not less than 60 days old.

**Statutory Authority:** *MS s 32.484*

**1535.1220 PROCEDURE.**

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 a white mutant 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 form 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 degrees Fahrenheit at 90 percent 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 nuworld 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.

**Statutory Authority:** *MS s 32.484*

**1535.1230 MILK.**

For the purposes of parts 1535.1210 to 1535.1230, 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, concentrated skim milk, nonfat dry milk, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

**1535.1240 ROQUEFORT CHEESE; SHEEP'S MILK BLUE-MOLD CHEESE; BLUE-MOLD CHEESE FROM SHEEP'S MILK.**

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

# MINNESOTA RULES 1989

845

## CHEESE AND CHEESE PRODUCTS 1535.1280

specified in part 1535.1240 to 1535.1260, by the procedure set forth in part 1535.1250 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 part 1535.1250 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 part 1535.0040. It is not less than 60 days old.

**Statutory Authority:** *MS s 32.484*

### 1535.1250 PROCEDURE.

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 degrees Fahrenheit, with relative humidity of 90 percent 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.

**Statutory Authority:** *MS s 32.484*

### 1535.1260 MILK.

For the purposes of parts 1535.1240 to 1535.1260, 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.

**Statutory Authority:** *MS s 32.484*

### 1535.1270 LIMBURGER CHEESE.

Limburger cheese is the food prepared from milk and other ingredients specified in parts 1535.1270 to 1535.1290 by the procedure set forth in part 1535.1280 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 part 1535.1280 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 part 1535.0040. If the milk used is not pasteurized, limburger cheese is held at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

### 1535.1280 PROCEDURE.

Milk, which may be pasteurized or clarified or both, is brought to a temperature of about 92 degrees Fahrenheit 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 one-half inch long. After a few minutes the mass is stirred and heated, gradually raising the temperature to 96 to 98 degrees Fahrenheit. 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 to 90 degrees Fahrenheit 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 degrees Fahrenheit. After most of the whey is drained off, salt brine at a temperature of 66 to 70 degrees Fahrenheit 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.1290 MILK.**

For the purposes of parts 1535.1270 to 1535.1290 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, water in quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used. All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330.

**Statutory Authority:** *MS s 32.484*

#### **1535.1300 MONTEREY CHEESE; MONTEREY JACK CHEESE.**

Monterey cheese, monterey jack cheese is the food prepared from milk and other ingredients specified in parts 1535.1300 to 1535.1350 by the procedure set forth in part 1535.1310 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 part 1535.1310 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 part 1535.0040.

**Statutory Authority:** *MS s 32.484*

#### **1535.1310 PROCEDURE.**

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, forced into a ball and pressed; or the curd is placed in a cheese hoop and pressed. Later, the cloth bandage is removed and the cheese may be covered with paraffin or dipped in vegetable oil, and may have 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.

**Statutory Authority:** *MS s 32.484*

**1535.1320 MILK.**

For the purposes of parts 1535.1300 to 1535.1350 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

**1535.1330 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.1330. Monterey cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.1340 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Monterey cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1350 OPTIONAL INGREDIENTS LABELING.**

If monterey cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1340, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in the first paragraph of this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1360 HIGH-MOISTURE JACK CHEESE.**

High-moisture jack cheese conforms to the definition and standard of identity and is subject to the requirement for label statement of optional ingredients prescribed for monterey cheese by parts 1535.1300 to 1535.1350, except that its moisture content is not less than 44 percent, but less than 50 percent.

**Statutory Authority:** *MS.s 32.484*

**1535.1370 PROVOLONE CHEESE; PASTA FILATA CHEESE.**

Provolone cheese, pasta filata cheese, is the food prepared from milk and other ingredients specified in parts 1535.1370 to 1535.1420, by the procedure set forth in part 1535.1380 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 part 1535.1380 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 part 1535.0400. If the milk used is not pasteurized, the cheese so made is held at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.1380 PROCEDURE.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.1390 MILK.**

For the purposes of parts 1535.1370 to 1535.1420, 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

**Statutory Authority:** *MS s 32.484*

**1535.1400 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Provolone cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310. 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 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, sufficient vitamin A is added to the curd to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

**Statutory Authority:** *MS s 32.484*

**1535.1410 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Provolone cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1420 OPTIONAL INGREDIENTS LABELING.**

The name "provolone cheese" ("pasta filata cheese") may include the com-

mon name of the shape of the cheese, such as "salami provolone." If provolone cheese is not smoked, the name includes the words "not smoked."

If provolone cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1410, the label shall bear the statement "— added to retard mold growth" or "— added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

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 prescribed by this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.1430 CACIOCAVALLO SICILIANO CHEESE.**

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 parts 1535.1430 to 1535.1470 by the procedure set forth in part 1535.1440 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 part 1535.1440 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 part 1535.0040. It is cured for not less than 90 days at a temperature of not less than 35 degrees Fahrenheit.

**Statutory Authority:** *MS s 32.484*

#### **1535.1440 PROCEDURE.**

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, 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.1450 MILK.**

For the purposes of parts 1535.1430 to 1535.1470, 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; (in the case of goat's milk) the corresponding

**1535.1450 CHEESE AND CHEESE PRODUCTS**

850

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.

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 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, sufficient vitamin A is added to the curd to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

**Statutory Authority:** *MS s 32.484*

**1535.1460 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Caciocavallo siciliano cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1470 OPTIONAL INGREDIENTS LABELING.**

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.

If caciocavallo siciliano cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1460, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

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 prescribed by this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1480 PARMESAN CHEESE; REGGIANO CHEESE.**

Parmesan cheese, reggiano cheese, is the food prepared from milk and other ingredients specified in parts 1535.1480 to 1535.1520, by the procedure set forth in part 1535.1490 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 part 1535.1490 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 milkfat, as determined by the methods prescribed in part 1535.0040. It is cured for not less than 14 months.

**Statutory Authority:** *MS s 32.484*

**1535.1490 PROCEDURE.**

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 degrees Fahrenheit and 125 degrees Fahrenheit. 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.1500 MILK.**

For the purposes of parts 1535.1480 to 1535.1520, 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

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 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, sufficient vitamin A is added to the curd to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

**Statutory Authority:** *MS s 32.484*

#### **1535.1510 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Parmesan cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

#### **1535.1520 OPTIONAL INGREDIENTS LABELING.**

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

If parmesan cheese in sliced or cut form contains an optional mold-inhibiting ingredient as provided for in part 1535.1510, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by this part showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.1530 ROMANO CHEESE.**

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

parts 1535.1530 to 1535.1580 by the procedure set forth in part 1535.1540 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 part 1535.1540 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 milkfat, as determined by the methods prescribed in part 1535.0040. It is cured for not less than five months.

**Statutory Authority:** *MS s. 32.484*

#### **1535.1540 PROCEDURE.**

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 not larger than corn kernels, stirred, and heated to a temperature of about 120 degrees Fahrenheit. 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.

**Statutory Authority:** *MS s. 32.484*

#### **1535.1550 MILK.**

For the purposes of parts 1535.1530 to 1535.1580, 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; (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.

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 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, sufficient vitamin A is added to the curd to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

**Statutory Authority:** *MS s. 32.484*

#### **1535.1560 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Romano cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s. 32.484*

**1535.1570 VARIOUS NAMES FOR ROMANO CHEESE, ACCORDING TO INGREDIENTS.**

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 "Caprino"; and when a mixture of two or all of the milk specified in this part 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.

**Statutory Authority:** *MS s 32.484*

**1535.1580 OPTIONAL INGREDIENTS LABELING.**

If the milk used is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

If romano cheese in sliced or cut form contains an optional mold-inhibiting ingredient as provided for in part 1535.1560, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by part 1535.1570 and this part, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1590 ASIAGO FRESH CHEESE, ASIAGO SOFT CHEESE.**

Asiago fresh cheese, asiago soft cheese, is the food prepared from milk and other ingredients specified in parts 1535.1590 to 1535.1630, by the procedure set forth in part 1535.1600 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 part 1535.1600 is used. It contains not more than 45 percent of moisture and its solids contain not less than 50 percent of milkfat, as determined by the methods prescribed in part 1535.0040. It is cured for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.1600 PROCEDURE.**

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 so 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 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.

**Statutory Authority:** *MS s 32.484*



**1535.1610 MILK.**

For the purposes of parts 1535.1590 to 1535.1630, 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, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used.

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 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, sufficient vitamin A is added to the curd to compensate for the vitamin A or its precursors destroyed in the bleaching process, and artificial coloring is not used.

**Statutory Authority:** *MS s 32.484*

**1535.1620 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Asiago fresh cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1630 OPTIONAL INGREDIENTS LABELING.**

If asiago fresh cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1620 the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

If the milk is bleached, the label shall bear the statement "Milk bleached with benzoyl peroxide."

Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the statement specified in this part showing the optional ingredient used shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1640 ASIAGO MEDIUM CHEESE.**

Asiago medium cheese conforms to the definition and standard of identity prescribed by parts 1535.1590 to 1535.1630 for asiago fresh cheese, except that it contains not more than 35 percent moisture, its solids contain not less than 45 percent of milkfat, it is cured for not less than six months, and the provisions of part 1535.1620 do not apply.

**Statutory Authority:** *MS s 32.484*

**1535.1650 ASIAGO OLD CHEESE.**

Asiago old cheese conforms to the definition and standard of identity prescribed by parts 1535.1590 to 1535.1630 for asiago fresh cheese, except that it contains not more than 32 percent moisture, its solids contain not less than 42 percent of milkfat, it is cured for not less than one year, and the provisions of part 1535.1620 do not apply.

**Statutory Authority:** *MS s 32.484*

**1535.1660 COOK CHEESE, KOCH KAESE.**

Cook cheese, koch kaese, is the food prepared from skim milk and other

ingredients specified in parts 1535.1660 to 1535.1680 by the procedure set forth in part 1535.1670 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 part 1535.1670 is used. It contains not more than 80 percent moisture as determined by the method therefor prescribed in part 1535.0040. When tested for phosphatase by the method prescribed in parts 1535.0070 to 1535.0310, 0.25 gram of cook cheese shows a phenol equivalent of not more than three micrograms.

**Statutory Authority:** *MS s 32.484*

#### **1535.1670 PROCEDURE.**

Skim milk or the optional dairy ingredients specified in the first paragraph of part 1535.1680, 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 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 two or three days. It is then heated to a temperature of not less than 180 degrees Fahrenheit 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.1680 OPTIONAL DAIRY INGREDIENTS.**

The optional dairy ingredients referred to in part 1535.1670 are: skim milk or concentrated skim milk or nonfat dry milk 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 used.

For the purposes of parts 1535.1660 to 1535.1680 "skim milk" means cow's milk from which the milk fat has been separated.

**Statutory Authority:** *MS s 32.484*

#### **1535.1690 SAP SAGO CHEESE.**

Sap sago cheese is the food prepared from the skim milk of cows and other ingredients specified in parts 1535.1690 and 1535.1700 by the procedure set forth in part 1535.1700. 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 part 1535.0040.

**Statutory Authority:** *MS s 32.484*

#### **1535.1700 PROCEDURE.**

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 five weeks. The ripened curd is dried and ground. Salt and dried clover of the species *melilotus coerulea* are added. The mixture is shaped into truncated cones. It is then cured for not less than five months.

**Statutory Authority:** *MS s 32.484*

#### **1535.1710 GAMMELOST CHEESE.**

Gammelost cheese is the food prepared from the skim milk of cows and the other ingredients specified in parts 1535.1710 and 1535.1720 by the procedure

set forth in part 1535.1720. It contains not more than 52 percent of moisture, as determined by the method prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

#### **1535.1720 PROCEDURE.**

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 degrees Fahrenheit is reached and is held at that temperature for not less than one-half 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 three or four hours. It is then removed from the whey and may again be pressed. It is then stored under conditions suitable for curing.

**Statutory Authority:** *MS s 32.484*

#### **1535.1730 HARD CHEESES.**

The cheeses for which definitions and standards of identity are prescribed by parts 1535.1730 to 1535.1800 are hard cheeses for which specifically applicable definitions and standards of identity are not prescribed by other rules of this chapter. They are made from milk and the other ingredients specified in parts 1535.1730 to 1535.1800, by the procedure set forth in part 1535.1740. 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

#### **1535.1740 PROCEDURE.**

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 a 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.1750 MILK.**

For the purposes of parts 1535.1730 to 1535.1800 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; (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.

**Statutory Authority:** *MS s 32.484*

# MINNESOTA RULES 1989

857

## CHEESE AND CHEESE PRODUCTS 1535.1810

### 1535.1760 MILK USED IN CHEESE LABELED "PASTEURIZED."

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. A hard cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

### 1535.1770 OPTIONAL MOLD-INHIBITING INGREDIENT.

Hard cheeses in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

### 1535.1780 NAME.

The name of each hard cheese for which a definition and standard of identity is prescribed by parts 1535.1730 to 1535.1800 is "hard cheese," preceded or followed by: the specific common or usual name of such hard cheese, if any such name has become generally recognized therefor; or if no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name that is not false or misleading in any particular.

**Statutory Authority:** *MS s 32.484*

### 1535.1790 USE OF MILK OTHER THAN COW'S MILK.

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.

**Statutory Authority:** *MS s 32.484*

### 1535.1800 OPTIONAL INGREDIENTS LABELING.

If hard cheese in sliced or cut form contain an optional mold-inhibiting ingredient as provided for in part 1535.1770, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by part 1535.1790 and the first paragraph of this part showing the optional ingredients used shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

### 1535.1810 SEMISOFT CHEESES.

The cheeses for which definitions and standards of identity are prescribed by parts 1535.1810 to 1535.1870 are semisoft cheeses for which specifically applicable definitions and standards of identity are not prescribed by other rules of this chapter. They are made from milk and other ingredients specified in parts 1535.1810 to 1535.1870, by the procedure set forth in part 1535.1820. 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 part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.1820 PROCEDURE.**

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. Salts 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.

**Statutory Authority:** *MS s 32.484*

**1535.1830 MILK.**

For the purposes of parts 1535.1810 to 1535.1870 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; (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.

**Statutory Authority:** *MS s 32.484*

**1535.1840 MILK USED IN CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. A semisoft cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than five micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.1850 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Semisoft cheeses in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1860 NAME.**

The name of each semisoft cheese for which a definition and standard of identity is prescribed by parts 1535.1810 to 1535.1870 is "semisoft cheese," preceded or followed by: the specific common or usual name of such semisoft cheese, if any such name has become generally recognized therefor; or 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.

**Statutory Authority:** *MS s 32.484*

**1535.1870 OPTIONAL INGREDIENTS LABELING.**

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.

If a semisoft cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1850, the label shall bear the statement "\_\_\_\_\_ added to retard mold growth" or "\_\_\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by this part showing the optional ingredient used shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

*Statutory Authority: MS s 32.484*

**1535.1880 SEMISOFT PART-SKIM CHEESES.**

The cheeses for which definitions and standards of identity are prescribed by parts 1535.1880 to 1535.1935 are semisoft part-skim cheeses for which specifically applicable definitions and standards of identity are not prescribed by other rules of this chapter. They are made from partly skimmed milk and other ingredients specified in parts 1535.1880 to 1535.1935 by the procedure set forth in part 1535.1890. They contain not more than 50 percent of moisture and their solids contain not less than 45 percent but less than 50 percent of milkfat, as determined by the methods set forth in part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit, for not less than 60 days.

*Statutory Authority: MS s 32.484*

**1535.1890 PROCEDURE.**

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 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.

*Statutory Authority: MS s 32.484*

**1535.1900 MILK.**

For the purposes of parts 1535.1880 to 1535.1935 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; (in the case of goat's milk) the corresponding products from goat's milk; (in the case of sheep's milk) the corresponding

**1535.1900 CHEESE AND CHEESE PRODUCTS**

860

products from sheep's milk; water in a quantity sufficient to reconstitute any such concentrated or dried products used.

**Statutory Authority:** *MS s 32.484*

**1535.1910 MILK USED FOR CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. A semisoft part-skim cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than five micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

**1535.1920 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Semisoft part-skim cheeses in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.1930 NAME.**

The name of each semisoft part-skim cheese for which a definition and standard of identity is prescribed by parts 1535.1880 to 1535.1935 is "semisoft part-skim cheese," preceded or followed by: the specific common or usual name of such semisoft cheese, if any such name has become generally recognized therefor; or 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.

**Statutory Authority:** *MS s 32.484*

**1535.1935 OPTIONAL INGREDIENTS LABELING.**

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.

If a semisoft part-skim cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.1920, the label shall bear the statement "\_\_\_\_\_ added to retard mold growth" or "\_\_\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by this part, showing the optional ingredient used, shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.1940 SOFT RIPENED CHEESES.**

The cheeses for which definitions and standards of identity are prescribed by part 1535.1940 to 1535.1990 are soft ripened cheeses for which specifically applicable definitions and standards of identity are not prescribed by other rules of this chapter. They are made from milk and the other ingredients specified in these rules by the procedure set forth in part 1535.1950. Their solids contain not less than 50 percent of milkfat, as determined by the method prescribed therefor in part 1535.0040. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

**1535.1950 PROCEDURE.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.1960 MILK.**

For the purposes of parts 1535.1940 to 1535.1990, 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; (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.

**Statutory Authority:** *MS s 32.484*

**1535.1970 MILK USED FOR CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330.

**Statutory Authority:** *MS s 32.484*

**1535.1980 NAME.**

The name of each soft ripened cheese for which a definition and standard of identity is prescribed by parts 1535.1940 to 1535.1990 is "soft ripened cheese" preceded or followed by: the specific common or usual name of such soft ripened cheese if any such name has become generally recognized therefor; or 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.

**Statutory Authority:** *MS s 32.484*

**1535.1990 USE OF MILK OTHER THAN COW'S MILK.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.2000 SPICED CHEESES.**

The cheeses for which definitions and standards of identity are prescribed by parts 1535.2000 to 1535.2050 are spiced cheeses for which specifically appli-



cable definitions and standards of identity are not prescribed by other rules of this chapter. They are made from milk and the other ingredients specified in these rules by the procedure set forth in part 1535.2010. Their solids contain not less than 50 percent of milkfat as determined by the method therefore prescribed in part 1535.0040. 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 degrees Fahrenheit for not less than 60 days.

**Statutory Authority:** *MS s 32.484*

#### **1535.2010 PROCEDURE.**

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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2015 MILK.**

For the purposes of parts 1535.2000 to 1535.2050 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; (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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2020 MILK USED FOR CHEESE LABELED "PASTEURIZED."**

All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. Spiced cheeses shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310.

**Statutory Authority:** *MS s 32.484*

#### **1535.2030 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Spiced cheeses in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.2040 NAME.**

The name of each spiced cheese for which a definition and standard of identity is prescribed by parts 1535.2000 to 1535.2050 is "spiced cheese," preceded or followed by: the specific common or usual name of such spiced cheese, if any such name has become generally recognized therefor; or if no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name that is not false or misleading in any particular.

**Statutory Authority:** *MS s 32.484*

**1535.2050 LABELING.**

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

If spiced cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.2030, the label shall bear the statement "\_\_\_\_ added to retard mold growth" or "\_\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by this part, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.2060 PART-SKIM SPICED CHEESES.**

Part-skim spiced cheeses conform to the definitions and standard of identity and are subject to the requirements for label statement of optional ingredients prescribed for spiced cheeses by parts 1535.2000 to 1535.2050 except that their solids contain less than 50 percent, but not less than 20 percent, of milkfat.

**Statutory Authority:** *MS s 32.484*

**1535.2070 HARD GRATING CHEESES.**

The cheeses for which definitions and standards of identity are prescribed by parts 1535.2070 to 1535.2120 are hard grating cheeses for which specifically applicable definitions and standards of identity are not prescribed by other rules of this chapter. They are made from milk and the other ingredients specified in parts 1535.2070 to 1535.2120, by the procedure set forth in part 1535.2080. They contain not more than 34 percent of moisture and their solids contain not less than 32 percent of milkfat, as determined by the methods prescribed in part 1535.0040. Hard grating cheeses are cured for not less than six months.

**Statutory Authority:** *MS s 32.484*

**1535.2080 PROCEDURE.**

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 form, 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.

**Statutory Authority:** *MS s 32.484*

**1535.2090 MILK.**

For the purposes of parts 1535.2070 to 1535.2120, 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; (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.

**Statutory Authority:** *MS s 32.484*

**1535.2100 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Hard grating cheeses in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.2110 NAME.**

The name of each hard grating cheese for which a definition and standard of identity is prescribed by these rules is "hard grating cheese," preceded or followed by: the specific common or usual name of such hard grating cheese, if any such name has become generally recognized therefor; or 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.

**Statutory Authority:** *MS s 32.484*

**1535.2120 LABELING.**

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.

If hard grating cheeses in sliced or cut form contain an optional mold-inhibiting ingredient as provided for in part 1535.2100, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 prescribed by this part showing the optional ingredients used shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.2130 SKIM MILK CHEESE FOR MANUFACTURING.**

Skim milk cheese for manufacturing is the food prepared from skim milk and other ingredients specified in parts 1535.2130 to 1535.2160, by the procedure set forth in part 1535.2140 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 part 1535.2140 is used. It contains not more than 50 percent of moisture as determined by the method therefor prescribed in part 1535.0040. It is coated with blue colored paraffin or other tightly adhering coating, colored blue.

**Statutory Authority:** *MS s 32.484*

**1535.2140 PROCEDURE.**

Skim milk or the optional dairy ingredients specified in part 1535.2150, 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 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.

**Statutory Authority:** *MS s 32.484*

**1535.2150 OPTIONAL DAIRY INGREDIENTS.**

The optional dairy ingredients referred to in part 1535.2140 are: skim milk or concentrated skim milk or nonfat dry milk or 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 used.

**Statutory Authority:** *MS s 32.484*

**1535.2160 SKIM MILK.**

For the purposes of parts 1535.2130 to 1535.2160, "skim milk" means cow's milk from which the milkfat has been separated.

**Statutory Authority:** *MS s 32.484*

**1535.2170 PASTEURIZED PROCESS CHEESE.**

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 part 1535.2240 into a homogeneous plastic mass. One or more of the optional ingredients designated in parts 1535.2250 and 1535.2260 may be used.

During its preparation, pasteurized process cheese is heated for not less than 30 seconds at a temperature of not less than 150 degrees Fahrenheit when tested for phosphatase by the method prescribed in parts 1535.0070 to 1535.0310, the phenol equivalent of 0.25 gram of pasteurized process cheese is not more than three micrograms.

**Statutory Authority:** *MS s 32.484*

**1535.2180 PASTEURIZED PROCESSED CHEESE FROM SINGLE VARIETIES.**

**Subpart 1. Moisture content.** The moisture content of a pasteurized process cheese made from a single variety of cheese is not more than one 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.

Subp. 2. **Fat content.** 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.

**Statutory Authority:** *MS s 32.484*

### 1535.2190 PASTEURIZED PROCESSED CHEESE FROM TWO OR MORE VARIETIES.

Subpart 1. **Moisture content.** The moisture content of a pasteurized process cheese made from two or more varieties of cheese is not more than one 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.

Subp. 2. **Fat content.** 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.

**Statutory Authority:** *MS s 32.484*

### 1535.2200 DETERMINATION OF MOISTURE AND FAT.

Moisture and fat are determined by the methods prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

### 1535.2210 WEIGHT OF EACH VARIETY.

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, nuworld 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 five 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, nuworld cheese, roquefort cheese or gorgonzola cheese is not less than five percent of the total weight of all and the weight of limburger cheese is not less than three 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 part 1535.2270, item B, subitem 2. Such mixtures are considered as one variety of cheese for the purposes of this part.

**Statutory Authority:** *MS s 32.484*

**1535.2220 CHEESES FOR MANUFACTURING.**

For the purposes of parts 1535.2170 to 1535.2290, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, muenster cheese for manufacturing, and swiss cheese for manufacturing are considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, muenster cheese and swiss cheese, respectively.

**Statutory Authority:** *MS s 32.484*

**1535.2230 SMOKING.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.2240 EMULSIFYING AGENT.**

The emulsifying agent referred to in part 1535.2170 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 aluminum phosphate, 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 three percent of the weight of the pasteurized process cheese.

**Statutory Authority:** *MS s 32.484*

**1535.2250 OPTIONAL INGREDIENTS.**

The optional ingredients referred to in part 1535.2170 are:

A. 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;

B. cream, in such quantity that the weight of the fat derived therefrom is less than five percent of the weight of the pasteurized process cheese;

C. water;

D. salt;

E. harmless artificial coloring; and

F. 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.

**Statutory Authority:** *MS s 32.484*

**1535.2260 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Pasteurized process cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of not more than 0.2 percent by weight of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, or consisting of not more than 0.3 percent by weight of sodium propionate, calcium propionate, or a combination of sodium propionate and calcium propionate.

**Statutory Authority:** *MS s 32.484*

**1535.2270 NAME.**

The name of a pasteurized process cheese for which a definition and standard of identity is prescribed by parts 1535.2170 to 1535.2290 is as follows:

A. 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.

B. 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:

(1) 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

(2) 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."

**Statutory Authority:** *MS s 32.484*

### 1535.2280 SMOKED PASTEURIZED PROCESS CHEESE.

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. 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. 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. 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 \_\_\_."

**Statutory Authority:** *MS s 32.484*

### 1535.2290 OPTIONAL MOLD-INHIBITING INGREDIENT.

If pasteurized process cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.2260, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 specified in part 1535.2280 and the first paragraph of this part, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

### 1535.2300 PASTEURIZED BLENDED CHEESE.

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 parts 1535.2170 to 1535.2290, except that:

A. in mixtures of two or more cheeses, cream cheese or neufchatel cheese may be used;

B. none of the ingredients prescribed or permitted for pasteurized process cheese by parts 1535.2240 and 1535.2250, item A is used;

C. 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; and

D. the word "process" is replaced by the word "blended" in the name prescribed by part 1535.2270.

**Statutory Authority:** *MS s 32.484*

**1535.2310 PASTEURIZED PROCESS CHEESE WITH FRUITS, VEGETABLES, OR MEATS.**

Unless a definition and standard of identity specifically applicable is established by another rule of this chapter, a pasteurized process cheese with fruits, vegetables, or meats or a mixture of these is a food which conforms to the definition and standard of identity and is subject to the requirements for a label statement of optional ingredients prescribed for pasteurized process cheese by parts 1535.2170 to 1535.2290, except that:

A. its moisture content may be one percent more and the milkfat content of its solids may be one percent less than the limits prescribed by parts 1535.2170 to 1535.2290 for moisture and fat in the corresponding pasteurized process cheese;

B. 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; and

C. when the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by part 1535.0040 is not applicable.

**Statutory Authority:** *MS s 32.484*

**1535.2320 NAME.**

The name of a pasteurized process cheese with fruits, vegetables, or meats is the name prescribed by parts 1535.2170 to 1535.2290 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.

**Statutory Authority:** *MS s 32.484*

**1535.2330 PASTEURIZED PROCESS PIMIENTO CHEESE.**

Pasteurized process pimiento cheese is the food which conforms to the definition and standard of identity for pasteurized process cheese with fruits, vegetables, or meats and is subject to the requirement for label statement of optional ingredients, except that:

A. its moisture content is not more than 41 percent and the fat content of its solids is not less than 49 percent;

B. 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;

C. for the purposes of this part, 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;

D. the only fruit, vegetable, or meat ingredient is pimientos 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 pimiento cheese; and

E. the optional ingredients designated in parts 1535.2230 and 1535.2250, item F, are not used.

**Statutory Authority:** *MS s 32.484*



**1535.2340 PASTEURIZED BLENDED CHEESE WITH FRUITS, VEGETABLES, OR MEATS.**

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 part 1535.2300, except that:

A. its moisture content may be one percent more and the milkfat content of its solids may be one percent less than the limits prescribed by part 1535.2300 for moisture and milkfat in the corresponding pasteurized blended cheese;

B. 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; and

C. when the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by part 1535.0040 is not applicable.

**Statutory Authority:** *MS s 32.484*

**1535.2350 NAME.**

The name of a pasteurized blended cheese with fruits, vegetables, or meats is the name prescribed by part 1535.2300 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.

**Statutory Authority:** *MS s 32.484*

**1535.2360 PASTEURIZED PROCESS CHEESE FOOD.**

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 part 1535.2410, with one or more of the optional dairy ingredients prescribed in part 1535.2420 into a homogeneous plastic mass. One or more of the optional ingredients specified in parts 1535.2430 and 1535.2440 may be used.

During its preparation, a pasteurized process cheese food is heated for not less than 30 seconds at a temperature of not less than 150 degrees Fahrenheit. When tested for phosphatase by the method prescribed in parts 1535.0070 to 1535.0310, the phenol equivalent of 0.25 gram of pasteurized process cheese food is not more than three micrograms.

**Statutory Authority:** *MS s 32.484*

**1535.2370 MOISTURE AND FAT CONTENTS.**

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. Moisture and fat are determined by the methods prescribed in part 1535.0040, except that in determining moisture the loss in weight which occurs in drying for five hours under the conditions prescribed in such method is taken as the weight of moisture.

**Statutory Authority:** *MS s 32.484*

**1535.2380 WEIGHT.**

The weight of the cheese ingredient prescribed by part 1535.2360 constitutes not less than 51 percent of the weight of the finished pasteurized process cheese food.

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, nuworld cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than ten 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, nuworld cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than five 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 part 1535.2450, item F. Such mixtures are considered as one variety of cheese for the purposes of this part.

**Statutory Authority:** *MS s 32.484*

#### **1535.2390 CHEESES FOR MANUFACTURING.**

For the purposes of parts 1535.2360 to 1535.2460, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, muenster cheese for manufacturing, and swiss cheese for manufacturing are considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, muenster cheese, and swiss cheese, respectively.

**Statutory Authority:** *MS s 32.484*

#### **1535.2400 SMOKING.**

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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2410 OPTIONAL CHEESE INGREDIENTS.**

The optional cheese ingredients referred to in part 1535.2360 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2420 OPTIONAL DAIRY INGREDIENTS.**

The optional dairy ingredients referred to in part 1535.2360 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 and skim milk cheese for manufacturing.

**Statutory Authority:** *MS s 32.484*

#### **1535.2430 OTHER OPTIONAL INGREDIENTS.**

The other optional ingredients referred to in part 1535.2360 are:

A. 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 hexameta-phosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium aluminum phosphate, 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 three percent of the weight of the pasteurized process cheese food;

B. 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;

C. water;

D. salt;

E. harmless artificial coloring; and

F. spices or flavorings other than any which singly or in combination with other ingredients simulate the flavor of cheese of any age or variety.

**Statutory Authority:** *MS s 32.484*

#### 1535.2440 OPTIONAL MOLD-INHIBITING INGREDIENT.

Pasteurized process cheese food in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of not more than 0.2 percent by weight of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these, or consisting of not more than 0.3 percent by weight of sodium propionate, calcium propionate, or a combination of sodium propionate and calcium propionate.

**Statutory Authority:** *MS s 32.484*

#### 1535.2450 LABEL.

The label of a pasteurized process cheese food shall bear the common or usual names of the optional ingredients used as specified in parts 1535.2410, 1535.2420, and 1535.2430, items A to D and:

A. 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;

B. 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;

C. 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;

D. 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 \_\_\_\_";

E. if it contains added artificial coloring, the label shall bear the statement "artificially colored" or "contains artificial color"; and

F. 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."

**Statutory Authority:** *MS s 32.484*

#### 1535.2460 OPTIONAL INGREDIENTS LABELING.

If pasteurized process cheese food in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.2440, the label shall bear the statement "\_\_\_\_ added to retard mold growth" or "\_\_\_\_ added as a preservative," the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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 specified in parts 1535.2360 to 1535.2460 showing the optional ingredients used shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.2470 PASTEURIZED PROCESS CHEESE FOOD WITH FRUITS, VEGETABLES, OR MEATS.**

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 parts 1535.2360 to 1535.2460, except that: its milkfat content is not less than 22 percent; and it contains one or any mixture of two or more of the following: any properly prepared cooked, canned, or dried fruits; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat. When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by part 1535.0040 is not applicable.

**Statutory Authority:** *MS s 32.484*

**1535.2480 NAME.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.2490 PIMIENTO AS ONLY VEGETABLE INGREDIENT.**

If the only vegetable ingredient is pimiento and no meat or fruit ingredient is used, the weight of the solids of such pimientos is not less than 0.2 percent of the weight of the finished food. The name of this food is "Pimiento pasteurized process cheese food" or "Pasteurized process pimiento cheese food."

**Statutory Authority:** *MS s 32.484*

**1535.2500 PASTEURIZED PROCESS CHEESE SPREAD.**

Pasteurized process cheese spread is the food prepared by comminuting and mixing, with the aid of heat, one or more of the optional cheese ingredients prescribed in part 1535.2550, with or without one or more of the optional dairy ingredients prescribed in part 1535.2560, with one or more of the emulsifying agents prescribed in part 1535.2570 and with or without one or more of the optional ingredients prescribed by part 1535.2580, into a homogeneous plastic mass, which is spreadable at 70 degrees Fahrenheit.

During its preparation, a pasteurized process cheese spread is heated for not less than 30 seconds at a temperature of not less than 150 degrees Fahrenheit. When tested for phosphatase by the method prescribed in parts 1535.0070 to 1535.0310 the phenol equivalent of 0.25 gram of pasteurized process cheese spread is not more than three micrograms.

**Statutory Authority:** *MS s 32.484*

**1535.2510 MOISTURE AND MILKFAT CONTENTS.**

The moisture content of a pasteurized process cheese spread is more than 44 percent but not more than 60 percent and the milkfat content is not less than 20 percent. Moisture and fat are determined by the methods prescribed in part 1535.0040, except that in determining moisture the loss in weight which occurs in drying for five hours under the conditions prescribed in such method is taken as the weight of the moisture.

**Statutory Authority:** *MS s 32.484*

**1535.2520 WEIGHT.**

The weight of the cheese ingredient referred to in part 1535.2500 constitutes not less than 51 percent of the weight of the pasteurized process cheese spread.

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, nuworld cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than ten 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, nuworld cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than five 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 part 1535.2590, item F. Such mixtures are considered as one variety of cheese for the purposes of this part.

**Statutory Authority:** *MS s 32.484*

#### **1535.2530 CHEESES FOR MANUFACTURING.**

For the purposes of parts 1535.2500 to 1535.2590, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, muenster cheese for manufacturing, and swiss cheese for manufacturing are considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, muenster cheese, and swiss cheese, respectively.

**Statutory Authority:** *MS s 32.484*

#### **1535.2540 SMOKING.**

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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2550 OPTIONAL CHEESE INGREDIENTS.**

The optional cheese ingredients referred to in part 1535.2500 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2560 OPTIONAL DAIRY INGREDIENTS.**

The optional dairy ingredients referred to in part 1535.2500 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 and skim milk cheese for manufacturing.

**Statutory Authority:** *MS s 32.484*

#### **1535.2570 EMULSIFYING AGENTS.**

The emulsifying agents prescribed in part 1535.2500 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 aluminum phosphate, 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 three percent of the weight of the pasteurized process cheese spread.

**Statutory Authority:** *MS s 32.484*

# MINNESOTA RULES 1989

875

## CHEESE AND CHEESE PRODUCTS 1535.2590

### 1535.2580 OTHER OPTIONAL INGREDIENTS.

The other optional ingredients referred to in part 1535.2500 are:

A. One or any mixture of two or more of the following: carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, sodium carboxymethylcellulose (cellulose gum), carrageen, oat gum, 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. When one or more of the optional ingredients are used, dioctyl sodium sulfosuccinate may be used in a quantity not in excess of 0.5 percent by weight of such ingredients.

B. 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.

C. 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, glucose sirup, glucose sirup solids, maltose, malt sirup, and hydrolyzed lactose, in a quantity necessary for seasoning.

D. Water.

E. Salt.

F. Harmless artificial coloring.

G. 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.

Pasteurized process cheese spread in consumer-sized packages may contain not more than 0.2 percent by weight of sorbic acid.

**Statutory Authority:** *MS s 32.484*

### 1535.2590 OPTIONAL INGREDIENTS LABELING.

The label of a pasteurized process cheese spread shall bear the common or usual names of the optional ingredients used, as specified in parts 1535.2550, 1535.2560, 1535.2570, and 1535.2580, items A to E, except that carob bean gum, gum karaya, gum tragacanth, guar gum, and oat gum may be designated as "vegetable gum" and:

A. 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;

B. 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;

C. 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;

D. 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 \_\_\_\_\_;"

E. if it contains added artificial coloring, the label shall bear the statement "artificially colored" or "contains artificial color;"

F. 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. 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. if pasteurized process cheese spread in consumer-sized packages contains sorbic acid, the label shall bear the statement "Sorbic acid added to retard mold growth" or "Sorbic acid added as a preservative."

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 specified in parts 1535.2500 to 1535.2590, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.2600 PASTEURIZED CHEESE SPREAD.**

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 parts 1535.2500 to 1535.2590, except that no emulsifying agent as prescribed by part 1535.2570 is used.

**Statutory Authority:** *MS s 32.484*

#### **1535.2610 PASTEURIZED PROCESS CHEESE SPREAD WITH FRUITS, VEGETABLES, OR MEATS.**

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 parts 1535.2500 to 1535.2590, except that 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 vegetables; any properly prepared cooked or canned meat. When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by part 1535.0040 is not applicable.

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.

**Statutory Authority:** *MS s 32.484*

#### **1535.2620 PASTEURIZED CHEESE SPREAD WITH FRUITS, VEGETABLES, OR MEATS.**

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 part 1535.2600, except that 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. When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by part 1535.0040 is not applicable.

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 meat used, in order of predominance by weight.

**Statutory Authority:** *MS s 32.484*

**1535.2640 CREAM CHEESE WITH OTHER FOODS.**

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 meats; relishes, pickles, or other foods suitable for blending with cream cheese. The amount of the added food or foods must be sufficient to so differentiate the mixture that it does not simulate cream cheese. The mixture may also contain:

A. One or any mixture of two or more of the following optional ingredients: gum karaya, gum tragacanth, carob bean gum, gelatin, guar gum, sodium carboxymethylcellulose (cellulose gum), carrageen, oat gum, algin (sodium alginate), algin derivative (propylene glycol ester of alginic acid). The total quantity of any such substances, including that contained in the cream cheese, is not more than 0.8 percent by weight of the finished food. When one or more of the optional ingredients are used, dioctyl sodium sulfosuccinate may be used in a quantity not in excess of 0.5 percent by weight of such ingredients.

B. Artificial coloring unless such addition conceals damage or inferiority or makes the finished food appear better or of greater value than it is.

**Statutory Authority:** *MS s 32.484*

**1535.2650 MOISTURE AND FAT.**

No water other than that contained in the added food ingredients is used, but the moisture content of the mixture in no case is more than 60 percent. The milkfat 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 part 1535.0040, except that when the added food contains fat, the method prescribed for the determination of fat is not applicable.

**Statutory Authority:** *MS s 32.484*

**1535.2660 NAME.**

The name of the food is "Cream cheese with \_\_\_\_" or "Cream cheese and \_\_\_\_," the blank being filled with the common names of the foods added in order of predominance by weight.

**Statutory Authority:** *MS s 32.484*

**1535.2670 OPTIONAL WATER-RETAINING INGREDIENTS.**

The label shall bear the name of the optional water-retaining ingredients used, except that carob bean gum, gum karaya, gum tragacanth, guar gum, and oat gum, or mixture of these may be named as "vegetable gum or vegetable gums," as the case may be.

**Statutory Authority:** *MS s 32.484*

**1535.2680 ARTIFICIAL COLORING.**

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 food so colored.

**Statutory Authority:** *MS s 32.484*

**1535.2690 OPTIONAL INGREDIENTS LABELING.**

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 specified, in parts 1535.2660 to 1535.2680 showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*



**1535.2700 PASTEURIZED NEUFCHATEL CHEESE SPREAD WITH OTHER FOODS.**

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 part 1535.2720. The amount of the added food or foods must be sufficient to so differentiate the blend that it does not simulate neufchatel cheese. It is spreadable at 70 degrees Fahrenheit.

During its preparation the mixture is heated for not less than 30 seconds at a temperature of not less than 150 degrees Fahrenheit. When tested for phosphatase by the method prescribed in parts 1535.0070 to 1535.0310, the phenol equivalent of 0.25 gram of such food is not more than three micrograms.

**Statutory Authority:** *MS s 32.484*

**1535.2710 LIMITATIONS.**

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 65 percent. The milk fat is not less than 20 percent by weight of the finished food.

**Statutory Authority:** *MS s 32.484*

**1535.2720 OPTIONAL INGREDIENTS.**

The optional ingredients referred to in part 1535.2700 are:

A. 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, sodium carboxymethylcellulose (cellulose gum), 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 when one or more of the optional ingredients are used, dioctyl sodium sulfosuccinate may be used in a quantity not in excess of 0.5 percent by weight of such ingredients.

B. Artificial coloring, unless such addition conceals damage or inferiority or makes the finished food appear better or of greater value than it is.

C. An acidifying agent consisting of one or a mixture of two or more of the following: a vinegar, acetic acid, lactic acid, citric acid, phosphoric acid.

D. A sweetening agent consisting of one or a mixture of two or more of the following: sugar, dextrose, corn sirup, corn sirup solids, glucose sirup, glucose sirup solids, maltose, maltose malt sirup, hydrolyzed lactose.

E. 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.

**Statutory Authority:** *MS s 32.484*

**1535.2730 NAME.**

The name of the food is "Pasteurized neufchatel cheese spread with \_\_\_" or "Pasteurized neufchatel cheese spread and \_\_\_," the blank being filled in with the common names of the foods added, in order of predominance by weight.

**Statutory Authority:** *MS s 32.484*

**1535.2740 LABEL.**

The label shall bear the names of any of the optional ingredients used designated in part 1535.2720, items A, C, D, and E 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.

**Statutory Authority:** *MS s 32.484*

**1535.2750 ARTIFICIAL COLORING LABELING.**

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 of the foods so colored.

**Statutory Authority:** *MS s 32.484*

**1535.2760 ACIDIFYING AGENT LABELING.**

If an optional acidifying agent is used so that the pH of the finished food is less than 4.2, there shall appear after the 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 4.2. In case vinegar and other acidifying agents are used and the pH of the finished food is less than 4.2, only the name or names of the acidifying agents other than vinegar shall be followed by the statement "a chemical preservative."

**Statutory Authority:** *MS s 32.484*

**1535.2770 OTHER OPTIONAL INGREDIENTS LABELING.**

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 specified in parts 1535.2730 to 1535.2760, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

**1535.2780 COLD-PACK CHEESE, CLUB CHEESE, COMMUNUTED CHEESE.**

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 part 1535.2840 may be used.

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 degrees Fahrenheit before being comminuted.

**Statutory Authority:** *MS s 32.484*

**1535.2790 LABELING FOR COLD-PACK CHEESE FROM SINGLE VARIETY.**

**Subpart 1. Moisture content.** 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.

**Subp. 2. Fat content.** 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.

**Statutory Authority:** *MS s 32.484*

**1535.2800 LABELING FOR COLD-PACK CHEESE FROM TWO OR MORE VARIETIES.**

Subpart 1. **Moisture content.** 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.

Subp. 2. **Fat content.** 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.

**Statutory Authority:** *MS s 32.484*

**1535.2810 MOISTURE AND FAT.**

Moisture and fat are determined by the methods prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

**1535.2820 WEIGHT.**

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, nuworld cheese, roquefort cheese, or gorgonzola cheese is not less than ten percent of the total weight of both, and the weight of limburger cheese is not less than five 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, nuworld cheese, roquefort cheese, or gorgonzola cheese is not less than five percent of the total weight of all, and the weight of limburger cheese is not less than three 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 part 1535.2850. Such mixtures are considered as one variety of cheese for the purpose of this part.

**Statutory Authority:** *MS s 32.484*

**1535.2830 SMOKING.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.2840 OPTIONAL INGREDIENTS.**

The optional ingredients referred to in part 1535.2780 are:

A. 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 parts 1535.2780 to 1535.2860 vinegar is considered to be acetic acid.

B. Water.

C. Salt.

D. Harmless artificial coloring.

E. 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.

Cold-pack cheese in consumer-sized packages may contain not more than 0.2 percent by weight of sorbic acid.

**Statutory Authority:** *MS s 32.484*

#### **1535.2850 COLD-PACK CHEESE LABEL STATEMENTS.**

The name of a cold-pack cheese for which a definition and standard of identity is prescribed by parts 1535.2780 to 1535.2860 is "Cold-pack \_\_\_ cheese" or "\_\_\_ club cheese" or "comminuted \_\_\_ cheese," the blanks being filled in with the name or names of the varieties of cheeses used, in order of predominance by weight.

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."

**Statutory Authority:** *MS s 32.484*

#### **1535.2860 OPTIONAL INGREDIENTS LABELING.**

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.

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.

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.

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 \_\_\_."

If it contains an added acidifying agent as prescribed in part 1535.2840, item A, 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.

If cold-pack cheese in consumer-sized packages contains sorbic acid, the label shall bear the statement "Sorbic acid added to retard mold growth" or "Sorbic acid added as a preservative."

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 specified in part 1535.2850, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

#### **1535.2920 COLD-PACK CHEESE FOOD.**

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 part 1535.2960 with one or more of the optional dairy ingredients prescribed in part 1535.2970, into a homogeneous plastic mass. One or more of the optional ingredients specified in parts 1535.2980 and 1535.2990 may be used.

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 degrees Fahrenheit before being comminuted.

**Statutory Authority:** *MS s 32.484*

**1535.2930 MOISTURE AND FAT CONTENTS.**

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. Moisture and fat are determined by the methods prescribed in part 1535.0040, except that in determining moisture the loss in weight which occurs in drying for five hours, under the conditions prescribed in such method, is taken as the weight of moisture.

**Statutory Authority:** *MS s 32.484*

**1535.2940 WEIGHT.**

The weight of the cheese ingredient prescribed by part 1535.2920 constitutes not less than 51 percent of the weight of the finished cold-pack cheese food.

The weight of each variety of cheese in the cold-pack 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, nuworld cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than ten percent of the total weight of both. The weight of each variety of cheese in the cold-papercent of the total weight of all, except that the weight of blue cheese, nuworld cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than five 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 part 1535.3000, item F. Such mixtures are considered as one variety of cheese for the purposes of this part.

**Statutory Authority:** *MS s 32.484*

**1535.2950 SMOKING.**

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.

**Statutory Authority:** *MS s 32.484*

**1535.2960 OPTIONAL CHEESE INGREDIENTS.**

The optional cheese ingredients referred to in part 1535.2920 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.

**Statutory Authority:** *MS s 32.484*

**1535.2970 OPTIONAL DAIRY INGREDIENTS.**

The optional dairy ingredients referred to in part 1535.2920 are: cream, milk, skim milk, cheese whey, or any mixtures of two or more of these or any of the foregoing from which part of the water has been removed, skim milk cheese for manufacturing 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.

**Statutory Authority:** *MS s 32.484*

**1535.2980 OTHER OPTIONAL INGREDIENTS.**

The other optional ingredients referred to in part 1535.2920 are:

A. 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;

B. water;

C. salt;

D. harmless artificial coloring;

E. spices or flavorings, other than any which singly or in combination with other ingredients simulate the flavor of cheese of any age or variety; and

F. 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, glucose sirup, glucose sirup solids, maltose, malt sirup, and hydrolyzed lactose, in a quantity necessary for seasoning.

Cold-pack cheese food in consumer-sized packages may contain not more than 0.2 percent by weight of sorbic acid or not more than 0.3 percent by weight of sodium propionate, calcium propionate, or a combination of sodium propionate and calcium propionate.

**Statutory Authority:** *MS s 32.484*

#### 1535.2990 GUAR GUM.

In the preparation of cold-pack cheese food, guar gum may be used in a quantity not to exceed 0.3 percent of the weight of the finished food. When such optional ingredient is used, dioctyl sodium sulfosuccinate may be used in a quantity not in excess of 0.5 percent by weight of such ingredient.

**Statutory Authority:** *MS s 32.484*

#### 1535.3000 OPTIONAL INGREDIENTS LABELING.

The label of a cold-pack cheese food shall bear the common or usual names of the optional ingredients used, as specified in parts 1535.2960 to 1535.2980, items A, B, C, and F.

A. 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. 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.

B. 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.

C. 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.

D. 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 word "flavored" or the word "artificially" shall precede the statement "flavored with \_\_\_\_."

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

F. 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."

G. 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. If cold-pack cheese food in consumer-sized packages contains sorbic acid, or sodium propionate, calcium propionate, or a combination of sodium propionate and calcium propionate, the label shall bear the statement "\_\_\_ added to retard mold growth" or "\_\_\_ added as a preservative," the blank being filled in with the name or names of the substance or substances used.

I. When the optional ingredient guar gum is present in cold-pack cheese food, the label shall bear the statement "guar gum added" or "with added guar gum."

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 specified in this part, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

*Statutory Authority: MS s 32.484*

#### **1535.3090 COLD-PACK CHEESE FOOD WITH FRUITS, VEGETABLES, OR MEATS.**

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 parts 1535.2920 to 1535.3000, except that its milk fat content is not less than 22 percent; and it contains one or any mixture of two or more of the following: any properly prepared fresh, cooked, canned, or dried vegetable; any properly cooked or canned meat. When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by part 1535.0040 is not applicable.

*Statutory Authority: MS s 32.484*

#### **1535.3100 NAME.**

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.

*Statutory Authority: MS s 32.484*

#### **1535.3110 WHEY CHEESE.**

Whey cheese (so-called) is produced by various processes from the constituents of whey. There are a number of varieties, each of which bears a distinctive name, according to the nature of the process by which it has been produced, as for example, "Ricotta," "Zieger," "Primost," "Mysost." (Note: not defined by federal.)

*Statutory Authority: MS s 32.484*

#### **1535.3120 GRATED AMERICAN CHEESE FOOD.**

Grated American cheese food is the food prepared by mixing, with or without the aid of heat, one or more of the optional cheese ingredients prescribed in part 1535.3130 with one or more of the optional ingredients prescribed in part 1535.3140, into a uniformly blended, partially dehydrated, powdered, or granular mixture. Grated American cheese food contains not less than 23 percent of milk fat as determined by the methods prescribed in part 1535.0040.

*Statutory Authority: MS s 32.484*

# MINNESOTA RULES 1989

885

## CHEESE AND CHEESE PRODUCTS 1535.3180

### 1535.3130 OPTIONAL CHEESE INGREDIENTS.

The optional cheese ingredients referred to in part 1535.3120 are cheddar cheese, washed curd cheese, colby cheese, and granular cheese.

**Statutory Authority:** *MS s 32.484*

### 1535.3140 OTHER OPTIONAL INGREDIENTS.

The other optional ingredients referred to in part 1535.3120 are:

A. nonfat dry milk;

B. dried whey;

C. an emulsifying agent consisting of one or any mixture of two or more of the emulsifying ingredients named in part 1535.2430, item A, in such quantity that the weight of the solids thereof is not more than three percent of the weight of the grated American cheese food;

D. an acidifying agent consisting of one or more of the acid-reacting ingredients named in part 1535.2430, item B;

E. salt; and

F. artificial coloring.

**Statutory Authority:** *MS s 32.484*

### 1535.3150 OPTIONAL INGREDIENTS LABELING.

The label of grated American cheese food shall bear the common name of the optional ingredients used as prescribed in parts 1535.3130 and 1535.3140, items A to E, except that the cheese ingredient may be designated as "American cheese."

If artificial coloring is used, the label shall bear the statement "artificially colored" or "contains artificial color."

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 specified in this part, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

**Statutory Authority:** *MS s 32.484*

### 1535.3170 SAMSOE CHEESE.

Samsoe cheese is the food prepared from milk and other ingredients specified in parts 1535.3170 to 1535.3190 by the procedure set forth in part 1535.3180 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 part 1535.3180 is used. The shape of the cheese is flat cylindrical. Its weight is approximately 30 pounds (14 kilograms); its diameter is approximately 17 inches (44 centimeters); and its height is approximately four inches (ten centimeters). It has a small amount of eye formation of approximately uniform size of about 5/16-inch (eight millimeters). It contains not more than 41 percent of moisture, and its solids contain not less than 45 percent of milk fat, as determined by the methods prescribed in part 1535.0040. The cheese so made is cured at a temperature of not less than 35 degrees Fahrenheit for not less than 60 days. The surface may be covered with plain or colored paraffin or other tightly adhering coating.

**Statutory Authority:** *MS s 32.484*

### 1535.3180 PROCEDURE.

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 the sides approximately 3/8-inch (one centimeter). The mass is stirred and heated to about 102 degrees Fahrenheit, and so handled by further stirring, heating, dilution with water, and salting as to promote and regulate the separation of curd and whey. When the desired curd is obtained, it is transferred to forms permitting drainage of whey. During drainage, the curd is pressed. After drainage, the curd is removed from the forms and is further salted by immersing in a concentrated salt solution for about three days. The curd is then cured at a temperature of from 60 to 70 degrees Fahrenheit for three to five weeks to obtain the desired eye formation. Further curing is conducted at a lower temperature.

**Statutory Authority:** *MS s 32.484*

#### **1535.3190 MILK.**

For the purposes of parts 1535.3170 to 1535.3190, 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.

**Statutory Authority:** *MS s 32.484*

#### **1535.3200 MUENSTER CHEESE FOR MANUFACTURING, MUNSTER CHEESE FOR MANUFACTURING.**

Muenster cheese for manufacturing conforms to the definition and standard of identity for muenster cheese prescribed by parts 1535.1000 to 1535.1050 except that the milk is not pasteurized and the provisions of parts 1535.1040 and 1535.1050 do not apply.

**Statutory Authority:** *MS s 32.484*

#### **1535.3210 MOZZARELLA CHEESE; SCAMORZA CHEESE.**

Mozzarella cheese, scamorza cheese is the food prepared from milk and other ingredients specified in parts 1535.3210 to 1535.3230 by the procedure set forth in part 1535.3220. It may be molded into various shapes. It contains more than 52 percent but not more than 60 percent of moisture, and its milk fat content, calculated on the solids basis, is not less than 45 percent, as determined by the methods prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

#### **1535.3220 PROCEDURE.**

Milk, which is pasteurized, is warmed to approximately 88 degrees Fahrenheit and subjected to the action of harmless lactic-acid-producing bacteria, which may be added thereto as starter. The milk may be acidified with vinegar. Liquid rennet may be added to aid in setting the milk to a semisolid mass. The mass is cut. It may be stirred to facilitate separation of whey from the curd. The whey is drained and the curd may be washed with cold water and the water drained off. The curd may be collected in bundles for further drainage and for ripening. The curd may be iced. It may be held under refrigeration, and it may be permitted to warm to room temperature and ripen further. The curd may be cut. It is immersed in hot water or heated with steam and is kneaded and stretched until smooth and free of lumps. Then it is cut and molded. The molded curd is firmed by immersion in cold water and may be salted in brine and drained.

**Statutory Authority:** *MS s 32.484*

#### **1535.3230 MILK.**

For the purpose of parts 1535.3210 to 1535.3230: the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding cream or skim milk or both. All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method

prescribed in part 1535.3330. The finished food shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310, provolone modification.

**Statutory Authority:** *MS s 32.484*

#### **1535.3240 PART-SKIM MOZZARELLA CHEESE, PART-SKIM SCAMORZA CHEESE.**

Part-skim mozzarella cheese, part-skim scamorza cheese conforms to the definition and standard of identity as prescribed for mozzarella cheese by parts 1535.3210 to 1535.3230, except that its milkfat content, calculated on the solids basis, is less than 45 percent but not less than 30 percent.

**Statutory Authority:** *MS s 32.484*

#### **1535.3250 LOW MOISTURE MOZZARELLA CHEESE, LOW MOISTURE SCAMORZA CHEESE.**

Low moisture mozzarella cheese is the food prepared from milk and other ingredients specified in parts 1535.3250 to 1535.3290 by the procedure set forth in part 1535.3260, 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 part 1535.3260 is used. It may be molded into various shapes. Its moisture content is more than 45 percent but not more than 52 percent, and its milkfat content, calculated on the solids basis, is not less than 45 percent, as determined by the method prescribed in part 1535.0040.

**Statutory Authority:** *MS s 32.484*

#### **1535.3260 PROCEDURE.**

Milk, which is pasteurized, and which may be clarified or homogenized or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, which may be added thereto as starter. The milk may be acidified with vinegar. Rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.2 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to aid in setting the milk to a semisolid mass. The mass is cut, stirred, and allowed to stand. It may be reheated and again stirred. The whey is drained, and the curd may be cut and piled to promote further separation of whey. It may be washed with cold water and the water drained off. The curd may be collected in bundles for further drainage and ripening. The curd may be iced, it may be held under refrigeration, and it may be permitted to warm to room temperature and ripen further. The curd may be cut. It is immersed in hot water or heated with steam and is kneaded and stretched until smooth and free of lumps. Then it is cut and molded. In molding, the curd is kept sufficiently warm to cause proper sealing of the surface. The molded curd is firmed by immersion in cold water and may be salted in brine and drained.

**Statutory Authority:** *MS s 32.484*

#### **1535.3270 MILK.**

For the purposes of parts 1535.3250 to 1535.3290 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, and water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk used. All milk used for the manufacture of cheese which is labeled "pasteurized" shall be pasteurized according to the method prescribed in part 1535.3330. The finished food shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms when tested by the method prescribed in parts 1535.0070 to 1535.0310, provolone modification.

**Statutory Authority:** *MS s 32.484*

**1535.3280 OPTIONAL MOLD-INHIBITING INGREDIENT.**

Low moisture mozzarella cheese, low moisture scamorza cheese in the form of slices or cuts in consumer-sized packages may contain an optional mold-inhibiting ingredient consisting of sorbic acid, potassium sorbate, sodium sorbate, or any combination of two or more of these in an amount not to exceed 0.3 percent by weight, calculated as sorbic acid.

**Statutory Authority:** *MS s 32.484*

**1535.3290 LABEL STATEMENT OF OPTIONAL INGREDIENTS.**

If low moisture mozzarella cheese, low moisture scamorza cheese in sliced or cut form contains an optional mold-inhibiting ingredient as specified in part 1535.3280, the label shall bear the statement “\_\_\_ added to retard mold growth” or “\_\_\_ added as a preservative,” the blank being filled in with the common name or names of the mold-inhibiting ingredient or ingredients used.

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

**Statutory Authority:** *MS s 32.484*

**1535.3300 LOW MOISTURE PART-SKIM MOZZARELLA CHEESE, LOW MOISTURE PART-SKIM SCAMORZA CHEESE.**

Low moisture part-skim mozzarella cheese, low moisture part-skim scamorza cheese conforms to the definition and standard of identity and complies with the requirements for label declaration of optional ingredients prescribed for low moisture mozzarella cheese, low moisture scamorza cheese by parts 1535.3250 to 1535.3290; except that its milk fat content, calculated on the solids basis, is less than 45 percent but not less than 30 percent.

**Statutory Authority:** *MS s 32.484*

**1535.3310 OFFICIAL MOISTURE AND FAT TESTS.**

Determine moisture by the method prescribed on page 247 section 15.157 under “Moisture — Official” and milk fat by the method prescribed on page 248 section 15.146 under “Fat — Official” of “Official Methods of Analysis of the Association of Official Agriculture Chemists,” tenth edition, 1965. Subtract the percent of moisture found from 100; divide the remainder into the percent of fat found. The quotient, multiplied by 100, shall be considered to be the percent of milk fat contained in the solids.

**Statutory Authority:** *MS s 32.484*

**1535.3320 PHOSPHATASE TESTS, PHENOL MODIFICATIONS.**

All varieties of cheese shall be deemed not to have been made from pasteurized milk if 0.25 gram shows a phenol equivalent of more than three micrograms, when tested by the method prescribed in parts 1535.0070 to 1535.0310, except for variations in phenol equivalents for certain varieties as noted on pages 252 and 253, section 15.180 of “Official Methods of Analysis of the Association of Official Agricultural Chemists,” tenth edition, 1965.

**Statutory Authority:** *MS s 32.484*

**1535.3330 PASTEURIZATION.**

The terms “pasteurization,” “pasteurized,” and similar terms shall mean the process of heating every particle of milk or fluid milk products in properly operated equipment approved by the commissioner to a temperature of not less than 145 degrees Fahrenheit, and holding it continuously at or above this temperature for not less than 30 minutes or to not less than 161 degrees Fahren-

# MINNESOTA RULES 1989

889

## CHEESE AND CHEESE PRODUCTS 1535.3330

heit, and holding it continuously at or above this temperature for not less than 15 seconds.

Nothing contained in this part shall be construed as excluding any other process which has been demonstrated to be equally efficient and is approved by the commissioner.

**Statutory Authority:** *MS s 32.484*