

## **19. Milk Products**

Milk products refers to products processed using raw milk as a main ingredient; such as Milks, Processed milks, Goat milk, Fermented milks, Butter milk, Concentrated milks, Milk creams, Butters, Cheeses, Powdered milks, Wheys, Lactose and Hydrolyzed milk protein products; except for those intended for drinking and containing not less than 0.5% coffee solids.

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#### **19-1 Milks (\*Livestock products)**

##### **1) Definition**

Milks refers to products made by pasteurizing or sterilizing raw milk (including partially skimmed milk) or by adjusting milk fat, or milk products reconstituted to contain similar components to raw milk.

##### **2) Requirements for Ingredients, etc.**

##### **3) Manufacturing/Processing Standards**

- (1) Milks shall be pasteurized or sterilized.
- (2) Milks may be standardized by reducing milk fat.
- (3) Milks shall never be mixed with other materials; however, recombined milk may be added with materials that are similar to raw milk.

##### **4) Food Type**

- (1) Milk : It refers to a product made by pasteurizing or sterilizing raw milk.

(100% raw milk)

- (2) Reconstituted milk : It means a milk product reconstituted to contain similar components to raw milk and pasteurized or sterilized; which contains not less than 8% non-fat milk solids.

#### 5) Specifications

- (1) Acidity (%) : Not more than 0.18 (as lactic acid)
- (2) Milk fat (%) : Not less than 3.0 (however, 0.6~2.6 for low-fat products, not more than 0.5 for non-fat products)
- (3) Bacterial count :  $n=5$ ,  $c=2$ ,  $m=10,000$ ,  $M=50,000$  (for sterilized products,  $n=5$ ,  $c=0$ ,  $m=0$ , when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C; except for products containing lactic acid bacteria.)
- (4) Coliforms :  $n=5$ ,  $c=2$ ,  $m=0$ ,  $M=10$  (Sterilized products are excluded)
- (5) Phosphatase : Shall be negative (only applicable to low-temperature long-time pasteurized and high-temperature short-time pasteurized products)
- (6) *Salmonella* spp. :  $n=5$ ,  $c=0$ ,  $m=0/25$  g
- (7) *Listeria monocytogenes* :  $n=5$ ,  $c=0$ ,  $m=0/25$  g
- (8) *Staphylococcus aureus* :  $n=5$ ,  $c=0$ ,  $m=0/25$  g

#### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-2 Processed Milks (\*Livestock products)

### 1) Definition

Processed milks refers to liquid products made by adding food or food additives to raw milk or milk products; except for those containing not less than 0.5% coffee solids.

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

- (1) Products shall be pasteurized or sterilized after being added with food or food additives; or added with food or food additives aseptically after being pasteurized or sterilized.
- (2) When fortifying milk, fortifying agents shall be added at the appropriate time, considering heat stability and microbial contamination.

### 4) Food Type

- (1) Fortified milk : It refers to a product made by adding food additives to milks for the purpose of fortifying with vitamins and minerals (100% milks; excluding food additives).
- (2) Lactic acid bacteria-added milk : It refers to a product made by adding lactic acid bacteria to milks (100% milks; excluding lactic acid bacteria).
- (3) Lactose-hydrolyzed milk : It refers to a product made by hydrolyzing or removing lactose from raw milk; or by fortifying with vitamins and minerals, and subsequently pasteurizing or sterilizing.
- (4) Processed milk : It refers to processed milks made by adding food or food additives to raw milk or milk products, other than those specified in Food Type (1)~(3) above.

### 5) Specifications

- (1) Acidity (%) : Not more than 0.18 (as lactic acid; excluding Lactic acid bacteria-added milk and Processed milk)
- (2) Non-fat milk solids (%) : Not less than 8.0 (only applicable to Fortified milk and Lactic acid bacteria-added milk);  
Not less than 4.0 (only applicable to Processed milk)

(3) Milk fat (%)

Specification Type	Fortified milk	Lactic acid bacteria-added milk	Lactose-hydrolyzed milk
Milk Fat (%)	Not less than 3.0 (However, 0.6~2.6 for low-fat products, not more than 0.5 for non-fat products)		

(4) Crude fat (%)

Specification Type	Processed milk
Crude Fat (%)	Not less than 2.7 (However, 0.6~2.6 for low-fat products, non-fat products are excluded)

(5) Lactose (%) : Not more than 1.0 (only applicable to Lactose-hydrolyzed milk)

(6) Bacterial count : n=5, c=2, m=10,000, M=50,000 (for sterilized products, n=5, c=0, m=0, when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C; except for Lactic acid bacteria-added products.)

(7) Coliforms : n=5, c=2, m=0, M=10 (sterilized products are excluded)

(8) Phosphatase : Shall be negative (only applicable to low-temperature long-time pasteurized and high-temperature short-time pasteurized products; excluding Lactose-hydrolyzed milk and Processed milk)

(9) Lactic acid bacteria count : Not less than 1,000,000/1 mL (only applicable to lactic acid bacteria-added products)

(10) *Salmonella* spp. : n=5, c=0, m=0/25 g

(11) *Listeria monocytogenes* : n=5, c=0, m=0/25 g

(12) *Staphylococcus aureus* : n=5, c=0, m=0/25 g

6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

### 19-3 Goat Milk (\*Livestock products)

#### 1) Definition

Goat milk refers to raw milk that is obtained from goats and pasteurized or sterilized subsequently. (100% goat's raw milk)

#### 2) Requirements for Ingredients, etc.

#### 3) Manufacturing/Processing Standards

#### 4) Food Type

#### 5) Specifications

(1) Specific gravity (15°C) : 1.030~1.034

(2) Acidity (%) : Not more than 0.20 (as lactic acid)

(3) Non-fat milk solids (%) : Not less than 7.5

(4) Milk fat (%) : Not less than 3.2

(5) Bacterial count : n=5, c=2, m=10,000, M=50,000 (for sterilized products, n=5, c=0, m=0, when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C; except for lactic acid bacteria-added products.)

(6) Coliforms : n=5, c=2, m=0, M=10 (Sterilized products are excluded)

(7) Phosphatase : Shall be negative (only applicable to low-temperature long-time pasteurized and high-temperature short-time pasteurized products)

(8) *Salmonella* spp. : n=5, c=0, m=0/25 g

(9) *Listeria monocytogenes* : n=5, c=0, m=0/25 g

(10) *Staphylococcus aureus* : n=5, c=0, m=0/25 g

#### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## **19-4 Fermented Milks (\*Livestock products)**

### **1) Definition**

Fermented milks refers to products made by fermenting raw milk or milk products with lactic acid bacteria or yeasts; or by adding food or food additives to such fermented milk or products.

### **2) Requirements for Ingredients, etc.**

### **3) Manufacturing/Processing Standards**

- (1) Mixed ingredients (except for lactic acid bacteria and yeasts) shall be pasteurized or sterilized and cooled down. Then, precautions shall be taken to protect such ingredients against contamination by microorganisms other than lactic acid or yeast used as an ingredient.
- (2) Lactic acid bacteria or yeasts shall be cultured or fermented while maintaining appropriate temperature s.
- (3) Fermented milks may go through the freezing process.

### **4) Food Type**

- (1) Fermented milk : It refers to a product made by fermenting raw milk or milk products, or by adding food or food additives thereto; containing not less than 3% non-fat milk solids.
- (2) Thick fermented milk : It refers to a product in viscous or liquid form, made by fermenting raw milk or milk products, or by adding food or food additives thereto; containing not less than 8% non-fat milk solids.
- (3) Fermented cream : It refers to a product made by fermenting raw milk or milk products, or by adding food or food additives thereto; containing not less than 3% non-fat milk solids and not less than 8% milk fat.
- (4) Thick fermented cream : It refers to a product made by fermenting raw milk or milk products, or by adding food or food additives thereto; containing not less than 8% non-fat milk solids and not less than 8% milk fat.
- (5) Fermented butter milk : It refers to fermented butter milk containing not less than 8% non-fat milk solids.
- (6) Fermented milk powder : It refers to a product made by fermenting raw milk or milk products, or by adding food or food additives thereto, and making

them into powder form; containing not less than 85% milk solids.

#### 5) Specifications

Types Items	Fermented Milk	Thick Fermented Milk	Fermented Cream	Thick Fermented Cream	Fermented Butter Milk	Fermented Milk Powder
(1) Water (%)	-	-	-	-	-	Not more than 5.0
(2) Milk solids (%)	-	-	-	-	-	Not less than 85
(3) Non-fat milk solids (%)	Not less than 3.0	Not less than 8.0	Not less than 3.0	Not less than 8.0	Not less than 8.0	-
(4) Milk fat (%)	-	-	Not less than 8.0	Not less than 8.0	Not more than 1.5	-
(5) Lactic acid bacteria or yeasts count	Not less than 10,000,000 per 1 mL	Not less than 100,000,000 per 1 mL (however, for frozen products, not less than 10,000,000)	Not less than 10,000,000 per 1 mL	Not less than 100,000,000 per 1 mL (however, for frozen products, not less than 10,000,000)	Not less than 10,000,000 per 1 mL	-
(6) Coliforms	n=5, c=2, m=0, M=10					
(7) <i>Salmonella</i> spp.	n=5, c=0, m=0/25 g					
(8) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25 g					
(9) <i>Staphylococcus aureus</i>	n=5, c=0, m=0/25 g					

#### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-5 Butter Milk (\*Livestock products)

### 1) Definition

Butter milk refers to a product made by pasteurizing or sterilizing the remains that are left after butter is manufactured from milk cream, or such butter milk made into powder form (100% raw butter milk).

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

(1) Food additives shall not be used in processing butter milk.

### 4) Food Type

### 5) Specifications

(1) Water: Not more than 5.0 (only applicable to powder products)

(2) Milk solids (%) : Not less than 6.5 (not less than 95.0 for powder products)

(3) Bacterial count :  $n=5$ ,  $c=2$ ,  $m=10,000$ ,  $M=50,000$  (for sterilized products,  $n=5$ ,  $c=0$ ,  $m=0$ , when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C.)

(4) Coliforms :  $n=5$ ,  $c=2$ ,  $m=0$ ,  $M=10$  (Sterilized products are excluded)

(5) *Salmonella* spp. :  $n=5$ ,  $c=0$ ,  $m=0/25$  g

(6) *Listeria monocytogenes* :  $n=5$ ,  $c=0$ ,  $m=0/25$  g

(7) *Staphylococcus aureus* :  $n=5$ ,  $c=0$ ,  $m=0/25$  g

### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”



## 19-6 Concentrated Milks (\*Livestock products)

### 1) Definition

Concentrated milks refers to products made by concentrating raw milk or milks with or without the addition of food or food additives.

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

- (1) When used to prevent precipitation, lactose shall be in fine powder form and treated to prevent microbial contamination.
- (2) Other materials shall never be added to concentrated milk. However, saccharides (sugar, glucose, fructose and oligosaccharides) may be added to Sweetened condensed milk and Sweetened condensed skim milk; and food or food additives may be added to Processed condensed milk.

### 4) Food Type

- (1) Concentrated milk : It refers to a product made by concentrating raw milk as it is.
- (2) Defatted concentrated milk : It refers to a product made by concentrating raw milk after adjusting its milk fat content to 0.5% or less.
- (3) Sweetened condensed milk : It refers to a product made by concentrating raw milk after adding saccharides thereto.
- (4) Sweetened condensed skim milk : It refers to a product made by concentrating raw milk after adjusting its milk fat content to 0.5% or less and then adding sugars thereto.
- (5) Processed condensed milk : It refers to a product made by concentrating raw milk or milks after adding food or food additives thereto.

### 5) Specifications

<b>Types Items</b>	<b>Concentrated Milk, Concentrated skim milk</b>	<b>Sweetened condensed milk</b>	<b>Sweetened condensed skim milk</b>	<b>Processed condensed milk</b>
(1) Water (%)	-	Not more than 27.0	Not more than 29.0	-
(2) Milk solids (%)	Not less than 22.0	Not less than 29.0	Not less than 25.0	Not less than 22.0

(3) Milk fat (%)	Not less than 6.0 (applicable only to concentrated milk)	Not less than 8.0	-	-
(4) Acidity (%)	Not more than 0.4 (based on lactic acid; applicable only to concentrated milk)	-	-	-
(5) Sugars (including lactose, %)	-	Not more than 58.0	Not more than 58.0	Not more than 58.0
(6) Bacterial count	n=5, c=2, m=10,000, M=50,000 (for sterilized products, n=5, c=0, m=0, when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C.)	n=5, c=2, m=10,000, M=50,000	n=5, c=2, m=10,000, M=50,000	n=5, c=2, m=10,000, M=50,000
(7) Coliforms	n=5, c=2, m=0, M=10 (Sterilized products are excluded)	n=5, c=2, m=0, M=10	n=5, c=2, m=0, M=10	n=5, c=2, m=0, M=10
(8) <i>Salmonella</i> spp.	n=5, c=0, m=0/25g			
(9) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25g			
(10) <i>Staphylococcus aureus</i>	n=5, c=0, m=0/25g			

## 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-7 Milk Creams (\*Livestock products)

### 1) Definition

Milk creams refers to milk fat separated from raw milk or milks, with or without the addition of food or food additives.

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

- (1) Milk creams shall be pasteurized or sterilized; they shall be processed using low-temperature long-time pasteurization (for 30 minutes at 65~68℃); high-temperature short-time pasteurization (for 15 to 20 seconds at 74~76℃); ultra-high-temperature sterilization (for 0.5 to 5 seconds at 130~150℃); or other methods with equivalent or better effect.

- (2) Other food or food additives shall not be added to milk cream.

### 4) Food Type

- (1) Milk cream: It refers to milk fat separated from raw milk or milks, containing not less than 30% milk fat content.
- (2) Processed milk cream: It refers to a product made by adding food or food additives to milk cream and processing it, containing not less than 18% milk fat content (not less than 50% for powder products).

### 5) Specifications

<b>Types</b> <b>Items</b>	<b>Milk Cream</b>	<b>Processed Milk Cream</b>
(1) Properties and Conditions	Homogenized milky-white~yellow fluid liquid or semi-solid products without off-taste or flavor	Shall have unique color, gloss and flavor without off-taste/flavor
(2) Water (%)	-	Not more than 5.0 (only applicable to powder products)
(3) Acidity (%)	Not more than 0.20 (as lactic acid)	-
(4) Milk fat (%)	Not less than 30.0	Not less than 18.0 (for powder products, not less than 50.0)
(5) Bacterial count	n=5, c=2, m=10,000, M=50,000	n=5, c=2, m=10,000, M=50,000

		(for sterilized products, n=5, c=0, m=0, when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C.)
(5) Coliforms	n=5, c=2, m=0, M=10	n=5, c=2, m=0, M=10 (sterilized products are excluded)
(6) <i>Salmonella</i> spp.	n=5, c=0, m=0/25 g	
(7) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25 g	
(8) <i>Staphylococcus aureus</i>	n=5, c=0, m=0/25 g	

## 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-8 Butters (\*Livestock products)

### 1) Definition

Butters refers to products made by separating or fermenting milk fat from raw milk or milks, and processing it, such as by churning or working, etc. with or without the addition of food or food additives.

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

- (1) Precautions shall be taken to prevent contamination by microorganisms of different species when manufacturing fermented butter.
- (2) Milk fat content in processed butter shall make up not less than 50% of the fat content of the product by weight.

### 4) Food Type

- (1) Butter : It refers to a product made by separating or fermenting milk fat from raw milk or milks; and churning and working such milk fat, (including those added with edible salt or food colors).
- (2) Processed butter : It refers to a product made by adding food or food additives to butter during or after completing manufacturing/processing; and processing it, such as by churning or working, etc.
- (3) Butter oil : It refers to a product made by removing water and non-fat milk solids from butter or milk cream.

### 5) Specifications

<b>Types</b> <b>Items</b>	<b>Butter</b>	<b>Processed Butter</b>	<b>Butter Oil</b>
(1) Water (%)	Not more than 18.0	Not more than 18.0	Not more than 0.3
(2) Milk fat (%)	Not less than 80.0	Not less than 30.0	Not less than 99.6
(3) Acid value	Not more than 2.8 (except fermented products)	Not more than 2.8 (except fermented products)	Not more than 2.8
(4) Butyric acid value	20.0±2	-	20.0±2
(5) Tar colors	Not detected.		
(6) Coliforms	n=5, c=2, m=0, M=10		
(7) <i>Salmonella</i> spp.	n=5, c=0, m=0/25g		

(8) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25g
(9) <i>Staphylococcus aureus</i>	n=5, c=0, m=0/25g
(10) Antioxidant(g/kg) : No antioxidants shall be detected except for the following :	
Butylated hydroxyanisole(BHA); Dibutyl hydroxy toluene; Tert-butylhydroquinone	Not more than 0.2 (When used in combination, the sum of butylated hydroxyanisole (BHA), dibutyl hydroxy toluene and tert-butylhydroquinone shall not be more than 0.2)
Propyl gallate	Not more than 0.1
(11) Preservatives(g/kg) : No preservatives shall be detected except for the following :	
Sodium dehydroacetic acid	Not more than 0.5 (as dehydroacetic acid)

## 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## **19-9 Cheeses (\*Livestock products)**

### **1) Definition**

Cheeses refers to natural cheese and processed cheese manufactured/processed by adding lactic acid bacteria, milk-clotting enzyme and organic acids, etc. to raw milk or milk products; and processing such milk or products, such as by coagulation, heating, concentration, etc.

### **2) Requirements for Ingredients, etc.**

### **3) Manufacturing/Processing Standards**

- (1) Raw milk and milk products for cheese-making shall be pasteurized for 30 minutes at 63~65°C and for not less than 15 seconds at 72~75°C or using other methods with equivalent or better effect; provided, however, that those for cheese-making that are aged for not less than 60 days at 2°C or above may not be subject to the pasteurization condition, such as the temperature set forth above.
- (2) During inoculation of lactic acid bacteria, precautions shall be taken to prevent secondary contamination by microorganisms of different species.
- (3) During fermentation or aging, the temperature and humidity of the aging room shall be strictly managed in order to prevent contamination on the surface by harmful microorganisms.
- (4) Natural cheese used as an ingredient in processed cheese shall be ground and sufficiently churned and emulsified to make a uniform texture.

### **4) Food Type**

- (1) Natural cheese : It refers to a product manufactured by adding lactic acid bacteria, milk-clotting enzyme and organic acids, etc. to raw milk or milk products to coagulate; and removing whey therefrom. It also includes cheese made by concentrating or heat-coagulating whey with/without the addition of raw milk or milk products, etc.
- (2) Processed cheese : It refers to a product made by adding milk products, other food or food additives to natural cheese used as an ingredient, and processing such cheese with or without emulsification; which contains not less than 18% milk solids derived from natural cheese.

## 5) Specifications

Type Item	Natural cheese	Processed cheese
(1) <i>Escherichia coli</i>	n=5, c=1, m=10, M=100	-
(2) Coliforms	-	n=5, c=2, m=10, M=100
(3) <i>Salmonella</i> spp.	n=5, c=0, m=0/25g	
(4) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25g	
(5) <i>Staphylococcus aureus</i>	n=5, c=2, m=10, M=100	
(6) <i>Clostridium perfringens</i>	n=5, c=2, m=10, M=100 (applicable only to cheese made from unpasteurized raw milk)	
(7) Enterohemorrhagic <i>Escherichia coli</i>	n=5, c=0, m=0/25 g (applicable only to cheese made from unpasteurized raw milk)	
(8) Preservatives (g/kg) : No preservatives shall be detected except for the following :		
Sodium dehydroacetic acid	Not more than 0.5 (as dehydroacetic acid)	
Sorbic acid; Potassium sorbate; Calcium sorbate	Not more than 3.0 (based on sorbic acid. When used in combination with calcium propionate, or sodium propionate, the sum of sorbic acid and propionic acid shall be not more than 3.0)	
Propionic acid; Calcium propionate; Sodium propionate	Not more than 3.0 (based on propionic acid. When used in combination with sorbic acid, potassium sorbate, or calcium sorbate, the sum of propionic acid and sorbic acid shall be not more than 3.0)	

## 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”



## 19-10 Powdered Milks (\*Livestock products)

### 1) Definition

Powdered Milks refers to products in powder form made by processing raw milk or skim milk with or without the addition of food or food additives.

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

- (1) Other food or food additives shall never be added to powdered milks, other than mixed milk powder; provided, however, saccharides (sugar, fructose, glucose and oligosaccharides) may be added to Sweetened milk powder.

### 4) Food Type

#### (1) Whole milk powder

It refers to a product made by removing water from raw milk and processing it into powder (100% raw milk).

#### (2) Skim milk powder

It refers to a product made by removing water from skim milk (containing not more than 0.5% milk fat) and processing it into powder (100% skim milk).

#### (3) Sweetened milk powder

It refers to a product made by adding saccharides (sugar, fructose, glucose and oligosaccharides) and processing it into powder (100% raw milk, excluding the saccharides added).

#### (4) Mixed milk powder

It refers to a powder product made by adding food or food additives, such as grain flour, processed grain products, processed cocoa products, whey and whey powder, etc., to raw milk, whole milk powder, skim milk or skim milk powder; and processing it; which contains not less than 50% raw milk, whole milk powder, skim milk or skim milk powder (as milk solids).

### 5) Specifications

Type Item	Whole Milk Powder	Skim Milk Powder	Sweetened Milk Powder	Mixed milk powder
(1) Water (%)	Not more than 5.0			

(2) Milk solids (%)	Not less than 95.0	Not less than 95.0	Not less than 70.0	Not less than 50.0
(3) Milk fat (%)	Not less than 25.0	Not more than 1.3	Not less than 18.0	Not less than 12.5 (except for products made from nonfat dry milk)
(4) Saccharide content (% except lactose)	-	-	Not more than 25.0	-
(5) Bacterial count	n=5, c=2, m=10,000, M=50,000			
(6) Coliforms	n=5, c=2, m=0, M=10			
(7) <i>Salmonella</i> spp.	n=5, c=0, m=0/25 g			
(8) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25 g			

## 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-11 Wheys (\*Livestock products)

### 1) Definition

Wheys refers to products made by producing raw whey through fermentation of raw milk and milk with lactic acid bacteria or through addition of enzymes or acids; and subsequently pasteurizing/sterilizing such raw whey or concentrating or making it into powder with or without desalination/defatting, etc. (100% raw whey)

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

(1) Powder products shall be processed to contain not more than 5.0% water.

### 4) Food Type

(1) Whey : It refers to a product made by pasteurizing or sterilizing raw whey.

(2) Concentrated whey : It refers to a product made by concentrating raw whey.

(3) Whey protein powder : It refers to a product made by removing lactose or minerals, etc. from raw whey and processing it into powder.

### 5) Specifications

<b>Type</b> <b>Item</b>	<b>Whey</b>	<b>Concentrate whey</b>	<b>Whey protein powder</b>
(1) Milk solids (%)	Not less than 5.0 (not less than 95.0 for powder products)	Not less than 25.0	Not less than 95.0 (Milk proteins shall not be less than 35.0% of the milk solids.)
(2) Bacterial count	n=5, c=2, m=10,000, M=50,000 (for sterilized products, n=5, c=0, m=0, when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C.)	n=5, c=2, m=10,000, M=50,000 (for sterilized products, n=5, c=0, m=0, when tested according to the general bacterial counting method after being stored for 1 week at 55°C or for 2 weeks at 30°C.)	n=5, c=2, m=10,000, M=50,000
(3) Coliforms	n=5, c=2, m=0, M=10 (sterilized products are excluded)		n=5, c=2, m=0, M=10

(4) <i>Salmonella</i> spp.	n=5, c=0, m=0/25g
(5) <i>Listeria monocytogenes</i>	n=5, c=0, m=0/25g

#### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-12 Lactose (\*Livestock products)

### 1) Definition

Lactose refers to a product made by separating carbohydrates from skim milk or whey and processing them into powder. (100% raw milk or milk product)

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

- (1) Components other than carbohydrates shall be sufficiently removed by heating at high temperature or adding coagulants.
- (2) Salts shall be removed, to the extent possible, from lactose through ion exchange process, etc., before it is processed into powder.

### 4) Food Type

### 5) Specifications

- (1) Water (%) : Not more than 5.0
- (2) Lactose (%) : Not less than 95.0
- (3) Bacterial count :  $n=5$ ,  $c=2$ ,  $m=10,000$ ,  $M=50,000$
- (4) Coliforms :  $n=5$ ,  $c=2$ ,  $m=0$ ,  $M=10$
- (5) *Salmonella* spp. :  $n=5$ ,  $c=0$ ,  $m=0/25$  g
- (6) *Listeria monocytogenes* :  $n=5$ ,  $c=0$ ,  $m=0/25$  g

### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

## 19-13 Hydrolyzed Milk Protein Products (\*Livestock products)

### 1) Definition

Hydrolyzed milk protein Products refers to products made by processing milk proteins after enzymatic or acid hydrolysis; or by adding food or food additives thereto.

### 2) Requirements for Ingredients, etc.

### 3) Manufacturing/Processing Standards

(1) In the case of acid hydrolysis, acid shall be removed or neutralized after use.

(2) Only hydrochloric acid shall be used for acid hydrolysis.

(3) Finished products shall be properly pasteurized or sterilized before completion.

### 4) Food Type

### 5) Specifications

(1) Water (%) : Not more than 5.0

(2) Crude protein (%) : Not less than the indicated amount.

(3) Amino acid nitrogen (%) : Not less than the indicated amount.

(4) Casein phosphopeptide (C.P.P) (%) : Not less than the indicated amount  
(applicable only to products containing  
100% hydrolyzed milk protein).

(5) Bacterial count : n=5, c=2, m=10,000, M=50,000

(6) Coliforms : n=5, c=2, m=0, M=10

(7) *Salmonella* spp. : n=5, c=0, m=0/25 g

(8) *Listeria monocytogenes* : n=5, c=0, m=0/25 g

### 6) Test Methods

Test in accordance with “Chapter 8. General Test Methods.”

<MFDS Notice 2020-3, Jan. 14, 2020> (Enforcement date : Jan. 1, 2022)

## **19-14 Processed milk containing product**

### **1) Definition**

Processed milk containing product refers to a product manufactured and processed with raw milk or milk products as its main ingredient and other than those falling under food types 19-1 through 19-13.

### **2) Requirements for Ingredients, etc.**

### **3) Manufacturing/Processing Standards**

(1) Raw milk or milk products used in manufacturing dairy products shall be pasteurized or sterilized before, or shall be pasteurized or sterilized prior to the completion of the finished product

### **4) Food Type**

### **5) Specifications**

(1) Properties and Conditions: Acceptable

(2) Foreign matters: Be Acceptable

(3) Bacterial count:  $n=5$ ,  $c=0$ ,  $m=0$  (only applicable to sterilized products)

(4) *Escherichia coli* :  $n=5$ ,  $c=1$ ,  $m=0$ , and  $M=10$  (Only applicable to non-pasteurized products for direct consumption)

(5) Coliforms:  $n=5$ ,  $c=1$ ,  $m=0$ ,  $M=10$  (only pasteurized products).)

(6) *Salmonella* spp :  $n=5$ ,  $c=0$ ,  $m=0/25g$

(7) *Listeria monocytogenes*:  $n=5$ ,  $c=0$ ,  $m=0/25g$

(8) *Staphylococcus aureus* :  $n=5$ ,  $c=0$ ,  $m=0/25g$

### **6) Test Methods**

Test in accordance with “Chapter 8. General Test Methods.