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PROPOSED REVISION OF REGULATIONS GOVERNING MILK, MILK PRODUCTS AND FROZEN DESSERTS

The above amendments were filed with the Department of Records on May 28, 1969.

Inasmuch as there were no requests for hearings the amendments became effective June 26, 1969.

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540 MSB

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1/1/69

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC HEALTH

REGULATIONS GOVERNING MILK, MILK PRODUCTS
AND FROZEN DESSERTS

THE PHILADELPHIA CODE
TITLE 6 - HEALTH CODE

Section 6-301 Food Establishments

(7) Every food establishment shall be conducted, operated, and maintained in accordance with such additional requirements as the Board may by regulation prescribe to protect the health of the ultimate consumers of food handled in such establishment. Such regulations may include, but shall not be limited to, reasonable requirements as to:

- (a) The building structure, maintenance, sanitation, lighting, ventilation and cleanliness of food establishments.
- (b) The preparation, composition, service, display, storage and packaging of food therein.
- (c) The personal hygiene and food service practices of persons handling food therein.
- (d) The construction, cleaning, cleanliness, bactericidal treatment and utensils.
- (e) The disposal of liquid and solid waste.
- (f) The handling, storage and protection of food in transit to and from food establishments within the City.

(g) The water supply.
(h) *The control of arthropods and rodents*

(8) No food handled outside the City shall be sold or brought into the City for human consumption unless handled in such a manner as to comply with the requirements of this Title and such regulations as the Board may prescribe to prevent adulteration or contamination.

Section 6-302 Frozen Desserts

- (1) No person shall sell any frozen desserts other than in the unopened carton, package, or protective wrapping in which they were placed at the licensed food establishment where they were prepared, except that frozen desserts may be sold from bulk to the public by a food establishment licensed under 6-301(4)(a) or by candy stores and drug stores without soda fountains licensed under 6-301(4)(b).
- (2) Frozen desserts which contain milk, milk products, or milk derivatives shall be pasteurized.

Section 6-305 Milk, Milk Products and Milk Derivatives

(2) Sale and Use.

- (a) No milk, milk products, or milk derivatives produced outside the City shall be sold or brought into the City for human consumption unless produced under conditions which meet the requirements of this Title and such regulations as the Board may prescribe to prevent contamination or growth of disease organisms.
- (b) No person shall sell, other than to a licensed milk plant or a food establishment for the manufacture of frozen desserts licensed under 6-301(4)(e), for further processing, any milk, milk products or milk derivatives which have not been pasteurized or otherwise processed in a manner which the Board may by regulation declare to afford equivalent protection against contamination, except that certified milk may be sold.
- (c) No person shall sell any milk or milk products other than in the unopened bottles, cartons, or packages in which they were placed at the licensed milk plant; except that in food estab-

ments licensed under 6-301(4)(a), homogenized milk and liquid milk products may be sold to the public for consumption as a beverage from a bulk milk dispensing machine or container which has been approved by the Department as complying with the regulations of the Board governing the construction and operation of such devices.

(3) Pasteurized Milk and Milk Products.

- (a) Pasteurized milk and milk products shall be prepared from milk for pasteurization.
- (b) Pasteurization of milk and milk products shall be accomplished in accordance with the regulations that the Board shall prescribe with regard to:
 - (1) the structure, maintenance and cleanliness of the milk plant;
 - (2) the construction, specifications, operation, maintenance, and control of all equipment utilized in the pasteurization, and processing of milk and milk products, including requirements for heating and cooling of milk, process controls and maintenance of records;
 - (3) the cleanliness and bactericidal treatment of equipment and utensils;
 - (4) the health and cleanliness of personnel;
 - (5) the chemical, biological, bacteriological, and physical standards for milk;
 - (6) the control of arthropods and rodents;
 - (7) the water supply and the disposal of liquid and solid matter.

(c) Pasteurized milk and milk products, except cottage cheese, creamed cottage cheese and sour cream, shall be placed in their final containers in the milk plant where they are pasteurized, and shall be stored, transported and labeled in accordance with such regulations as the Board may prescribe to insure the maintenance of sanitary and wholesome quality of such products.

(4) Milk for Pasteurization.

(a) Milk for pasteurization shall be produced, transported and received in accordance with the regulations that the Board shall issue with regard to:

- (.1) the health and cleanliness of the producing animals;
- (.2) the structure, maintenance and cleanliness of the dairy farm, including character of the water supply and waste disposal thereof;
- (.3) the health and cleanliness of personnel;
- (.4) the construction, cleanliness and bactericidal treatment, handling and storage of utensils and equipment;
- (.5) the cooling, transportation and receiving of milk;
- (.6) the presence of colostrum;
- (.7) the percentage of milk fats and solids contained therein;
- (.8) the number and types of bacteria which may be present therein;
- (.9) the chemical, biological, and bacteriological standards for milk, but nothing herein contained shall prohibit the addition of vitamin "D" to milk by the irradiation process.

(5) Certified Milk.

- (a) Certified milk shall be milk which has been produced and handled in such a manner as to comply with the standards established by the regulations of the Board, based upon the "Methods and Standards for the Production and Distribution of Certified Milk" as adopted by the American Association of Medical Milk Commission, Inc.

Pursuant to Section 5-301(b) of the Home Rule Charter and Sections 6-301(7),(8); 6-302; 6-305(2),(3),(4),(5) of the Code of General Ordinances of the City of Philadelphia, the following regulations are promulgated by the Board of Health.

1. DEFINITIONS

In this regulation, the following definitions apply:

- (a) Approved. Satisfactory compliance as determined and recorded by the Department of Public Health.
- (b) Milk. The lacteal secretion obtained by the milking of one or more cows or goats.
- (c) Milkfat or Butterfat. The fat of milk.
- (d) Cream. A portion of milk which contains not less than 18 percent milkfat.
- (e) Sour Cream. Cream the acidity of which is more than 0.20 percent, expressed as lactic acid.
- (f) Vitamin D milk. Milk the vitamin D content of which has been increased by an approved method to at least 400 U.S.P. units per quart.
- (g) Milk producer. Any person who owns or controls one or more cows, a part or all of the milk or milk products from which is sold, offered for sale, or supplied for human consumption.
- (h) Dairy Farm. Any place or premises where one or more cows or goats are kept, a part or all of the milk or milk products of

which is sold or delivered to any person for human consumption.

- (i) Sanitary Milk Piping. Properly designed and constructed piping and fittings for the conveyance of milk, milk products or frozen desserts or ingredients used therein.
- (j) Auxiliary Equipment. Equipment not in physical contact with milk, milk products or frozen desserts, but present in a milk plant or frozen desserts plant, such as lighting, ventilation, electrical equipment and similar equipment.
- (k) Utensils or Equipment. Utensils or equipment used in the receiving, processing, packaging, storage or transport of milk, milk products or frozen desserts.
- (l) Containers. Containers used in the receiving, processing, packaging, storage, and transport of milk, milk products or frozen desserts.
- (m) Frozen Desserts. Any frozen or partially frozen product or mix for freezing, (a) containing milk, milk products or milk derivatives, including ice cream, frozen custard, milk sherbet, ice milk, and any other similar product, or (b) combining water, sugar, fruit, stabilizer, flavoring, whether natural or artificial, including ice, shaved ice, water sherbet, and any other similar product.
- (n) Milk Derivatives. Butter, cheese, condensed milk, condensed skim milk, evaporated milk, powdered milk, and powdered milk products.
- (o) Milk Plant. Any food establishment where milk is collected, separated, processed, stored, bottled, pasteurized or prepared in any manner for sale as milk or milk products.

- (p) Milk Products. Skim milk, non-fat milk, cream, sour milk, sour cream, buttermilk, flavored milk, cultured milk, cottage cheese, creamed cottage cheese, and all other fluid derivatives of milk except those defined as milk derivatives.
- (q) Frozen Dessert Plant. Any food establishment where frozen dessert or mix is manufactured, processed, frozen or packaged for sale; except establishments obtaining mix from others and freezing or processing it on the premises, and selling it at retail only.
- (r) Certified Milk. Milk which is produced and handled in compliance with the standards established by the regulations of the Board of Health which are based upon the "Methods and Standards for the Production and Distribution of Certified Milk" as adopted by the American Association of Medical Milk Commissions Inc.
- (s) Communicable Disease. An illness or infectious disease which is transmissible directly or indirectly by a person, animal, arthropod, or through the agency of an intermediate host, vector, or the inanimate environment to another person.

The following regulations shall apply to milk plants and frozen dessert plants located in the City of Philadelphia or selling or delivering their products to persons in the City:

2. FLOORS.

The floors of all rooms in which milk, milk products and frozen desserts are handled or stored, or in which utensils are washed, shall be constructed of impervious and easily cleaned material, and shall be smooth, properly drained, provided with trapped drains, and kept clean and in good repair. All other floors in milk plants and frozen dessert plants shall be constructed of easily cleaned material and kept

clean and in good repair.

3. WALLS AND CEILINGS

Walls and ceilings of rooms in which milk, milk products and frozen desserts are handled or stored, or in which utensils are washed shall have a smooth, washable, light-colored surface, and shall be kept clean and in good repair and such walls shall be constructed of an impervious material to a height four (4) feet above the floor level. All other walls and ceilings shall be kept clean and in good repair.

4. OPENINGS TO THE OUTSIDE

Effective means shall be provided to prevent the access of flies and rodents. All openings to the outside shall have solid doors or glazed windows which shall be closed during dusty weather.

5. LIGHTING

Rooms in which milk, milk products or frozen desserts are handled, or in which utensils are washed shall be provided with natural or artificial light sufficient to provide an illumination of at least twenty (20) foot candles on all working surfaces and in all working areas. Rooms used only for dry storage and cold storage shall be provided with sufficient light to provide illumination of at least four (4) foot candles at a point thirty inches (30) above the floor.

6. VENTILATION

Rooms in which milk, milk products or frozen desserts are handled, or in which utensils are washed, shall be kept free of objectionable odors, condensate and excess moisture. Exhaust outlets from mechanical ventilating devices shall be conducted to the outside air and shall be so arranged, placed and extended as to avoid creating a nuisance to adjacent areas, as prescribed in Title 3 of the Code of General Ordinances and any regulations thereunder.

7. TOILET FACILITIES

Conveniently located toilet facilities conforming to the Plumbing Regulations and the Air Pollution Code and regulations shall be provided in the plant. Toilet room shall be enclosed and the toilet room doors shall be self-closing. Toilet rooms shall be constructed with easily washable floors and walls. Toilet rooms and appurtenances shall be kept clean, well illuminated and in good repair. Toilet rooms shall be ventilated to the outside air. Durable legible signs shall be posted conspicuously in each toilet room directing employees to wash their hands before returning to work. Plumbing in plants outside of the City of Philadelphia shall conform to requirements equivalent to those of the Philadelphia Plumbing Regulations. Toilet room doors shall not open directly into a processing area.

8. HANDWASHING FACILITIES

Adequate handwashing facilities, consisting of handwashing sinks with hot and cold running water shall be provided in the toilet room, and soap and individual sanitary towels or other approved drying facilities in suitable holders or dispensers shall be available at all times and kept clean and in good repair. Common towels are prohibited. No person shall resume work after using the toilet room without first washing his hands. Handwashing sinks with hot and cold running water, soap and sanitary towels shall be provided in or no more than fifty (50) feet from the entrance point of any room in which milk plant or frozen desserts operations are conducted and on the same floor level as each room.

9. WATER SUPPLY

Hot and cold running water, under pressure, in amounts adequate to supply to peak demands of the plant shall be provided in all rooms where milk, milk products or frozen desserts are handled or utensils

are washed. The water supply shall be of a safe, sanitary quality. All plumbing and water supply shall conform to the Plumbing Regulations and applicable regulations of the Department of Public Health and the Water Department of the City of Philadelphia. Water supply in plants outside of Philadelphia shall conform to equivalent requirements.

10. DISPOSAL OF WASTES

(a) All liquid wastes shall be disposed of in accordance with the requirements of the Plumbing Regulations. Liquid waste disposal in plants outside of the City shall conform to equivalent requirements; except that where public sewers are not available, the liquid wastes shall be disposed of by methods which are not conducive to fly-breeding or other insanitary conditions and which are approved by the Philadelphia Department of Public Health.

(b) All plumbing and drain lines shall be designed, installed and maintained so as to prevent contamination of milk utensils or equipment and all overhead drains and piping shall be so installed that possible leakage and condensation are directed away from the milk, equipment, and utensils.

(c) No trash or garbage shall be present upon the plant premises except in tightly covered impervious containers. Waste containers may be uncovered only when in actual use. All such containers shall be washed and cleaned when emptied.

11. CLEANING AND BACTERICIDAL TREATMENT

(a) All milk and milk product or frozen dessert containers, equipment and utensils, except single-service containers, shall be thoroughly cleaned after each usage. Any equipment in continuous use shall be thoroughly cleaned at least once in every twenty-four (24) hour period. The cleaned containers, utensils or equipment shall be

subjected to an approved bactericidal process before usage.

(b) Approved final bactericidal treatment for washing and sanitizing containers, utensils, and equipment shall mean the treatment by one of the following methods:

(1) Hot water at a minimum temperature of 170°F. for at least three (3) minutes.

(2) Such bactericidal methods and processes as may be approved by the Department.

(c) No compound or method shall be used in the washing or the bactericidal treatment of containers, equipment and utensils unless it has been demonstrated that no toxic residue is left in its normal manner of use. No bactericidal agent for the bactericidal treatment of containers, equipment and utensils shall be used for which there is not available a satisfactory field test for the determination of the concentration of the bactericidal solution. Where bottles are subjected to bactericidal treatment by steam, hot water, or chemicals in automatic bottle washers, the subsequent final rinsing of the bottles shall be with water which has been treated with heat or chemicals to assure freedom from viable pathogenic organisms and to prevent recontamination of the bactericidal treated bottle during the rinsing operations.

(d) Pipelines and/or equipment designed for mechanical cleaning shall meet the following requirements:

(1) An effective cleaning and sanitizing regimen for each separate cleaning circuit shall be followed.

(2) During processing, pipelines and equipment used to contain or conduct milk and milk products shall be effectively separated from tanks or circuits containing cleaning

(3) A temperature recording device shall be installed in the return solution line to record the temperature and time during which the line or equipment is exposed to cleaning and sanitizing.

(4) Temperature recording charts shall be identified, dated and retained for 3 months.

12 STORAGE

(a) After bactericidal treatment, all bottles, cans, and other multi-use milk, milk product and frozen dessert containers and equipment shall be transported and stored in such a manner as to be protected from contamination. Milk bottle caps or cap stock, parchment paper, single-service containers, frozen dessert cartons, wrappers, can liners, and single-service sticks and spoons and gaskets shall be sanitary and stored only in sanitary tubes, wrappings or cartons; shall be kept therein in a clean, dry place until used; and shall be handled in a sanitary manner.

(b) Suitable cabinets or rooms shall be provided for the storage of caps, cap stock, parchment paper, cartons, single-service sticks and spoons, wrappers, can liners and gaskets.

13 CONSTRUCTION AND MAINTENANCE

(a) All utensils, equipment, or containers, used in a plant shall be constructed as to be easily cleaned and shall be maintained in good repair, and operated in a sanitary manner. All containers, utensils or equipment the surfaces of which come into contact with milk, milk products or frozen desserts shall be made of stainless steel or other smooth, corrosion resistant non-toxic material, kept in good repair and free of breaks, chips, cracks, rough areas, corrosion and open seams. Milk, milk product or frozen dessert contact surfaces shall drain freely and shall be easily accessible for cleaning,

14 HANDLING OF CONTAINERS, UTENSILS AND EQUIPMENT

Between bactericidal treatment and usage, and during usage, containers, utensils and equipment shall not be handled or operated in such a manner as to permit contamination of the milk. Pasteurized milk, frozen desserts or milk products shall not come into contact with equipment with which unpasteurized milk or frozen desserts or milk products have been in contact, unless the equipment has first been thoroughly cleaned and subjected to an approved bactericidal process.

15 PASTEURIZATION

(a) Pasteurization shall be the process whereby every particle of milk or milk products is heated to at least 145°F. and held continuously at or above this temperature for at least 30 minutes, or to at least 161°F. and held continuously at or above this temperature for at least 15 seconds in approved and properly operated equipment. Milk products which have a higher milkfat content than milk or contain added sweeteners shall be heated to at least 150°F. and held continuously at or above this temperature for at least 30 minutes, or to at least 166°F. and held continuously at or above this temperature for at least 15 seconds.

Pasteurization of frozen desserts shall mean the heating of every particle of the frozen dessert to at least 155°F and held continuously at such temperature for at least thirty (30) minutes, or to 175°F. and held continuously at such temperature for at least twenty-five (25) seconds in approved and properly operated equipment. Nothing in these definitions shall be construed as barring any other pasteurization process which has been recognized by the Department to be equally efficient and has been approved by the Department.

(b) Requirements for Vat Pasteurizers:

(1) No batch of milk, frozen desserts, or milk products shall be pasteurized unless it covers a sufficient area of the agitator to insure adequate agitation.

(2) Each vat pasteurizer shall be equipped with both an indicating and a recording thermometer. The temperature shown by the recording thermometer shall be checked daily during the pasteurization process against the temperature shown by the indicating thermometer and the readings shall be recorded on the recording chart. No batch of milk, milk products, or frozen desserts shall be pasteurized unless it has sufficient volume to cover the bulbs of both the indicating and the recording thermometers. The recording thermometer shall be kept so adjusted as never to read higher than the indicating thermometer.

(3) No milk, milk products, or frozen desserts shall be added to the vat pasteurizer after the start of the holding period. No raw milk, milk products or frozen desserts shall bypass around the vat pasteurizer.

(4) All inlet pipe lines and outlets from vat pasteurizers shall be equipped with leak-protector valves. All leak-protector valves shall be in proper working order and installed in such a position as to insure the functioning of the leak-diverting device. Inlet valves shall not be located in vertical pipe lines, unless they can be so installed that one of the groove systems is at the lowest level of the valve.

(5) Means shall be provided and used in pasteurization vats to keep the atmosphere above the milk, milk products or frozen dessert at a temperature not less than 5°F. higher

than the milk or frozen dessert temperature during the heating period; and not less than 5°F. higher than the required temperature of pasteurization during the holding period. This requirement may be waived when thirty (30) minute pasteurization of milk and such milk products as buttermilk and chocolate milk is done at higher temperatures, provided an air-space thermometer is installed as required and such thermometer indicates an air-temperature of at least 5°F. higher during the holding period than the required pasteurization temperature. In all cases, an approved air-temperature indicating thermometer shall be provided during the holding period.

(6) The covers of pasteurization vats shall be so constructed that nothing on top thereof will drop into the vat when it is either open or closed. All openings through the cover shall have a raised edge to prevent drainage into the opening. Condensation diverting aprons shall be provided, as close to the cover as possible, on all pipes, thermometers, and other equipment which extend through the cover and on which condensation may form, unless a water-tight joint with the cover is provided. The covers of all vats must be kept closed during the operation.

(c) Requirements for High-Temperature Short-Time Pasteurizers.

(1) Each such system shall be equipped with an automatic milk-flow stop of the diversion type.

(2) The control mechanism of the milk-flow stop shall be set and sealed, so that the forward flow of milk can not start unless the temperature at the controller bulb is above the required pasteurization temperature nor continue during

descending temperatures when that temperature is below the required pasteurization temperature. The seal shall be applied by the Department after test, and shall not be removed without immediately notifying the Department by telephone and confirming this notice by mail within twenty-four (24) hours. The system shall be so designed that milk, milk products and frozen desserts can not be by-passed around the flow-stop bulb, which shall not be removed from its proper position during the pasteurization process. The cut-in and cut-out milk, milk product or frozen dessert temperatures shown by the indicating thermometer shall be determined daily, and shall be entered upon the recording thermometer chart.

(3) Switches for the control of pumps, homogenizers, or other devices which produce flow through the holder, shall be wired in such a manner that the circuit is completed only when the milk, milk products or frozen dessert is above the required pasteurization temperature, or when the diversion valve is in the fully-diverted position.

(4) The flow-diversion valve shall be located downstream from the holder. The holder shall be so designed that no portion between the inlet and the flow-stop is heated. The flow-stop-controller bulb shall be located in the holding tube not more than eighteen (18) inches upstream from the flow-diversion valve.

(5) The pipe line from the diversion port of the flow-diversion valve shall be self-draining, and shall be free of restrictions or valves, unless such restrictions or valves are so designed that stoppage of the diversion line can not occur.

(6) The holder shall be so designed that the simultaneous

temperature difference between the hottest and coldest milk in any cross-section of flow at any time during the holding period will not be greater than 1°F.

(7) An indicating thermometer shall be located as near as practicable to the bulb of the recorder controller, but may be located a short distance upstream from the latter where milk between the two bulbs does not differ significantly in temperature. The temperature shown by the recording thermometer shall be checked daily against the temperature shown by the indicating thermometer, and the readings shall be recorded on the chart. The recording thermometer shall be kept so adjusted as never to read higher than the indicating thermometer.

(8) The holders shall be so designed as to provide for the holding of every particle of milk, milk product or frozen dessert for the required pasteurization time. Tubular holders shall slope, not less than $\frac{1}{4}$ -inch per foot, continuously upward from the inlet to the milk-flow stop.

(9) The pump, or pumps, and other equipment which may produce flow through the holder shall be located upstream from the holder. Pumps, homogenizers, or other flow-producing devices may be located downstream from the holder when the milk is open to the atmosphere between the holder and the inlet to such equipment.

(10) The pump, or pumps, governing the rate of flow through the holder shall be driven by a motor whose maximum attainable speed is such as to insure the holding of every particle of milk for the required pasteurization time. The motor may be either a constant-speed induction-type motor or, in lieu

thereof, any other type of motor which is so connected with a governor as to limit its maximum speed so as to insure the required holding time, provided that the setting of the governor is sealed so that it can not be changed without detection by the Department. In all cases, the motor shall be connected to the timing pump by means of a common driveshaft, or by means of gears, pulleys, or a variable-speed drive, with the gear box, the pulley box, or the setting of the variable-speed drive protected in such a manner that the holding time can not be changed without detection by the Department. This shall be accomplished by the application of suitable seals after tests by the Department, and such seals shall not be broken without immediately notifying the Department by telephone and confirming this notice by mail within twenty-four (24) hours. If the proper pasteurization time is achieved at the maximum obtainable pump speed, then the speed controls need not be sealed. Variable-speed drives used in connection with the timing pump shall be so constructed that wearing or stretching of the belt results in a slow-down, rather than a speed-up, of the pump.

(11) Regenerative heater-coolers shall be so constructed, installed, and operated that the pasteurized milk, milk product or pasteurized frozen dessert side will automatically be under greater pressure than the raw milk or raw frozen dessert sides at all times.

(12) Milk-Level Elevations

- a. The pasteurized milk, milk product, or frozen dessert, between its outlet from the regenerator and the nearest point downstream open to the atmosphere,

shall rise to a vertical elevation of 12 inches above the highest raw milk level downstream from the constant-level tank and shall be open to the atmosphere at this or a higher elevation.

- b. The raw milk or raw frozen dessert level nearest upstream from the regenerator shall be in a supply tank of which the overflow shall be below the level of the lowest milk or frozen dessert passage in the regenerator.

(15) Pump Location

- a. No pump shall be located between the pasteurized milk or pasteurized frozen dessert outlet from the regenerator and the nearest downstream point open to the atmosphere.
- b. No pump shall be located between the raw milk or raw frozen dessert inlet to the regenerator and the raw milk or raw frozen dessert supply tank, unless it is so designed and so installed that it can operate only when milk or frozen dessert is flowing through the pasteurized milk or frozen dessert side of the regenerator, and when the pressure of the pasteurized milk or frozen dessert is higher than the maximum pressure produced by this pump. This may be accomplished by wiring this booster pump so that it can not operate unless the metering pump is in operation, the flow-diversion valve is in the forward-flow position, and a sanitary pressure-switch located at the pasteurized milk or pasteurized frozen dessert outlet from the regenerator is so set and sealed as to complete the

circuit only when the pasteurized milk or pasteurized frozen dessert pressure exceeds, by at least one (1) pound per square inch, the maximum pressure developed by the booster pump.

(14) Maintenance of pressure differential during shut-down and at beginning of run. All raw milk or frozen dessert in the regenerator shall drain freely back to the upstream supply tank when the raw milk or frozen dessert pumps are shut down and the raw milk or frozen dessert line is disconnected from the regenerator outlet.

(d) All recording-thermometer charts shall be preserved for a period of six (6) months. No chart shall be used more than one (1) day. The following information shall be entered on the charts:

(1) Manual-Discharge 30-Minute Vat Pasteurizers

- a. Date
- b. Number or location of recorder, when more than one is used.
- c. Extent of holding period.
- d. Reading of indicating thermometer at some time during the holding period as indicated on the chart. This shall be done at least once daily.
- e. Type of pasteurized milk or milk product or frozen dessert represented by each batch of run shown on the chart.
- f. Record of any unusual occurrences.
- g. Signature, or initials, of operator.

(2) High-Temperature Short-Time Pasteurizers Recording Thermometer charts shall contain all the information specified in 15 (d)(1) and the following additional information:

- a. A record of the time during which the milk-flow stop is in the forward-flow position.
- b. The milk or mix temperatures (determined daily) at which the cut-in and cut-out functions.

16 COOLING

(a) All milk, milk products, or frozen desserts received for pasteurization shall be cooled immediately in approved equipment to 45°F. or less, and shall be maintained at that temperature until pasteurized. All pasteurized milk, milk products, or frozen desserts except those to be cultured, shall be cooled immediately after pasteurization in approved equipment to a temperature of 45°F. or less and maintained at that temperature in the plant. The pasteurized milk or milk products shall be maintained at 50°F. or less in transit to and until delivery to the consumer.

(b) Milk for pasteurization, unless delivered to a milk plant within two (2) hours after completion of milking, shall be cooled immediately to 45°F. or less and shall be maintained at that temperature until delivered to a milk plant.

(c) Each refrigerator room in which milk, milk products or frozen desserts are stored shall be equipped with an approved thermometer located in the warmest zone.

(d) Recirculated water and liquid refrigerant which are used in coolers and regenerators shall be properly protected against contamination. All open-surface coolers and open-surface regenerative coolers shall be provided with tight-fitting shields that protect the milk, milk products or frozen desserts from possible contamination by flies, dust, drip, splash, condensation, manual contact, and droplets from coughs and sneezes.

17 BOTTLING, CAPPING AND PACKAGING

(a) Bottling and packaging of milk and milk products shall be done at the place of pasteurization in approved mechanical equipment.. The filler pipe for bulk containers shall be equipped with a condensation-diverting apron.

(b) Bottling or packaging machine supply tanks and bowls shall be provided with covers which are so constructed as to prevent any contamination from reaching the inside of the filler tank or bowl. All covers must be in place during operation.

(c) Drip-deflecting aprons shall be installed on each filler valve just above the filler-valve rubber, and shall be so designed and so adjusted as to divert condensation from the path of the bottles.

(d) Filling cylinders on packaging machines shall be protected from contamination by the use of overhead shields.

(e) Automatically operated bottling and packaging machine in-feed conveyors shall be provided with overhead shields to protect the bottles or packages from contamination.

(f) Fabricating materials, such as paper stock, foil, wax, plastic coating, etc., shall be handled in a sanitary manner, and shall be protected against undue exposure during the assembly operation.

(g) Closing of milk and milk products containers shall be done in a sanitary manner by approved mechanical equipment. Hand closing is prohibited, except that bulk milk containers may be closed in a manner approved by the Department. The cap, or cover, shall protect the pouring lip to at least its largest diameter.

(h) Sour cream, cottage cheese, and other cheeses as defined under 1 (p) may be packaged by hand, under conditions approved by the

Department, and when the hands of all employees engaged in packaging are thoroughly washed and given bactericidal treatment with an approved sanitizer before beginning such work and after each interruption.

(i) Bottles or packages which have been imperfectly capped or closed shall be emptied into cans or other containers, and the dumped milk or milk products shall be repasteurized.

(j) Bulk dispensing devices shall be filled at the milk plant and shall be sealed with two (2) seals in such manner as to make it impossible to withdraw any part of its contents without breaking one seal, and impossible to introduce any substance without breaking the other.

(k) Packaging, cutting, molding, dipping, and other preparation of frozen desserts or their ingredients shall be done in a sanitary manner. Containers shall be covered immediately after filling. Caps or covers shall be handled in such a manner as to prevent contamination of the package contents.

(l) Single-service sticks, spoons, and containers shall be handled or assembled in a sanitary manner.

18 PERSONNEL HEALTH AND CLEANLINESS

(a) All employees shall wear clean outer garments and shall keep their hands clean at all times while engaged in handling milk, frozen desserts or milk products, containers, utensils or equipment, and shall wear a suitable head covering. Employees shall not expectorate or use tobacco in rooms in which milk, frozen desserts, or milk products are handled.

(b) No person who is affected with any infection or disease in a communicable form or is a carrier of such an infection or disease shall work in a milk, milk products or frozen dessert plant, and no

plant shall employ any such person or any person ^ususpected of being affected with an infection or disease in a communicable form or of being a carrier of such disease. If the plant has reason to believe that any employee has contracted any infection or disease, it shall notify the Department of Public Health immediately by telephone and confirm this notice by mail within twenty-four (24) hours. In the case of a communicable disease in the home of an employee, the employee shall notify the plant of such communicable disease.

(c) All employees currently employed by a milk or frozen desserts plant and each person about to be employed by a milk or frozen desserts plant, whose work will bring him into contact with the processing of milk, milk products and frozen desserts, shall be required to undergo an examination by a physician. This examination shall include a careful morbidity history. An annual chest X-ray examination and certificate thereof approved by the Department shall be required. Employees shall be barred from employment if warranted by the results of such examinations for such periods of time as may be determined by the Department.

(d) All employees shall furnish such information, submit to such physical examinations, and submit such laboratory specimens as the Department may require for the purpose of determining freedom from communicable disease.

(e) No person with an infected cut or lesion on hands or arms shall handle milk, milk products, frozen desserts, containers or equipment.

19 VEHICLES

(a) All vehicles used for the transportation of milk, milk products, or frozen desserts shall be constructed and operated so as to protect their contents from contamination. All vehicles used for

the distribution of milk or milk products shall have the name of the distributor prominently displayed thereon.

(b) Milk tank-cars and tank-trucks shall comply with the construction, cleaning, bactericidal treatment, storage, and handling requirements of this regulation.

(c) All vehicles used for the transportation of milk or milk products or frozen desserts in their final delivery containers shall be constructed with permanent tops and sides. All vehicles shall be kept clean.

(d) No material which is capable of contaminating milk, milk products or frozen desserts shall be transported in vehicles used for the transport of milk, milk products or frozen desserts.

(e) Milk tank-cars and tank-trucks, shall be operated in the following manner:

(1) Milk, milk products or frozen desserts shall be conducted to and from tanks only through sanitary piping, or approved flexible piping with readily demountable clamps.

Such piping shall be capped when not in use.

(2) Inlets and outlets of transportation tanks shall be provided with tight-fitting dust caps or covers.

(3) Facilities shall be provided for adequate washing and bactericidal treatment of tanks, piping, and accessories, at all plants receiving or shipping milk, milk products or frozen dessert in tanks.

(4) Transportation tanks, piping, connections and pumps used with tanks shall be cleaned at the plant immediately after being used and shall be given bactericidal treatment at the plant before reuse.

20 MISCELLANEOUS PROTECTION

(a) The various milk plant or frozen dessert plant operations shall be located and conducted so as to prevent any contamination of the milk or frozen dessert or of cleaned equipment. All necessary means shall be used for the elimination of flies, other insects, and rodents. In a milk plant there shall be separate completely partitioned rooms for the pasteurizing, processing, cooling and bottling operations, and the washing and bactericidal treatment of containers. Cans of raw milk shall not be received directly into the pasteurizing room. Rooms in which milk, milk products, or frozen desserts, clean utensils, or containers are handled or stored shall not open directly into any stable or living quarters. The milk and frozen dessert plant containers, utensils, and equipment shall be used for no purpose other than the processing of milk, milk products or frozen desserts and the operations incident thereto, except as may be approved by the Department.

(b) Bulk milk cans such as producer cans and dispenser cans, shall be thoroughly cleaned and sanitized in approved mechanical equipment and stored in a sanitary manner subsequent to being filled or before being returned to a producer by a milk plant.

(c) All equipment and containers with which milk comes into contact shall be covered, or otherwise protected to prevent the access of flies, dust, condensation, and other contamination during operation.

(d) Ingredients added to milk and milk products, and frozen desserts shall be handled in such manner as to avoid contamination.

(e) All openings in covers of tanks, vats, separators, etc. shall be protected by raised edges, or otherwise, to prevent the entrance of surface drainage. Condensation-diverting aprons shall be

provided as close to the tank or vat as possible on all pipes, thermometers, and other equipment extending into a milk or frozen dessert handling tank, bowl, or vat, unless a water-tight joint is provided.

(f) Pasteurized milk shall not be strained or filtered except through a perforated metal strainer or single-service filters. Milk shall not be strained through woven-wire cloth.

(g) All food substances used in the preparation of milk products or frozen desserts shall be stored in a clean place, six (6) inches off the floor, and shall be so handled as to be protected from contamination.

(h) No insecticides or other poisonous or deleterious substance shall be stored in any room where milk, milk products, or frozen desserts or their ingredients are handled. All insecticides and similar materials shall be kept in properly labeled containers and shall be so employed as not to create a public health hazard.

(i) Lubricants such as orange oil or petroleum jelly applied to equipment shall be dispensed in a sanitary manner from the original container.

(j) All milk, milk products or frozen desserts that have spilled, overflowed, or leaked shall be discarded and shall not be sold for human consumption.

(k) The surrounding outer premises appertaining to the plant shall be kept clean and free of litter and rubbish, and from all other conditions that may serve as rodent harborages or to attract flies and other arthropods.

(l) Facilities shall be supplied for the storing and hanging of employees' clothing and such facilities shall be kept clean. These shall be separated from rooms where milk, milk products or frozen

desserts are handled. Soiled coats and aprons shall be kept in containers provided for that purpose.

(m) Frozen desserts in broken or open containers may be returned to the plant after delivery for inspection, but shall not be used for human consumption.

(n) Whenever air under pressure is used for the agitation or movement of milk, or is directed at a milk-contact surface, it shall be free of oil, dust, rust, excessive moisture, extraneous materials and odor.

(o) The use of steam containing toxic substances is prohibited. Whenever steam is used in contact with milk or milk products, it shall be of culinary quality.

21 PLANS FOR NEW CONSTRUCTION OR EXTENSIVE RECONSTRUCTION

In the case of new construction or extensive reconstruction or alterations or the installation of new equipment, duplicate plans shall be submitted to the Department of Public Health for prior approval. Such approvals shall be recorded and a set of plans will be kept on file in the offices of the Department.

22 STANDARDS FOR MILK, MILK PRODUCTS AND FROZEN DESSERTS

(a) Bacterial plate counts, direct microscopic counts, coliform determinations, phosphatase tests, efficiency of bactericidal treatment, and other laboratory and screening tests shall conform to the procedures in the latest edition of "Standard Methods for the Examination of Dairy Products" recommended by the American Public Health Association. Examinations may include such other chemical and physical determinations as the Department may deem necessary for the detection of adulteration. Bio-assays of the vitamin D content of vitamin D milk and milk products shall conform to the latest edition of the "Official Methods of Analysis of the Association of

Official Agricultural Chemists".

(b) No milk or milk products shall be received in any milk plant for any purpose, unless such milk or milk products shall have been produced on approved dairy farms, or acquired from approved milk plants.

(c) All milk, milk products, or frozen desserts and ingredients used therein shall be clean, wholesome, unadulterated, free from spoilage, hazardous chemicals, rodents, insects and insect parts, other arthropods or other foreign materials.

(d) Bacteriological Standards

(1) Milk and milk products shall not exceed the following bacteriological standards. These standards shall not apply to cultured milk and milk products.

(a) Raw milk at the point of receipt from the farm shall not exceed a bacterial plate count of 100,000 per ml., and at no subsequent time prior to pasteurization shall exceed a bacterial plate count of 300,000 per ml., for three out of the last five samples.

(b) Pasteurized milk and milk products shall not exceed a bacterial plate count of 20,000 per ml., and shall not exceed a coliform count of 5 per ml., for three out of the last five samples.

(c) Pasteurized cream shall not exceed a bacterial plate count of 20,000 per gram, and shall not exceed a coliform count of 5 per gram, for three out of the last five samples.

(d) Milk labeled as Pasteurized A Milk shall conform to the Pennsylvania Department of Agriculture Regulations Governing Pasteurized A Milk, and to the regulations of

the Department.

(2) Frozen desserts shall not exceed the following bacterial plate counts per gram.

(a) Frozen desserts for pasteurization shall not exceed a bacterial plate count of 200,000 per gram as determined by the logarithmic average of the last four samples.

(b) Pasteurized frozen desserts shall not exceed a bacterial plate count of 50,000 per gram as determined by the logarithmic average of the last four samples.

(c) Pasteurized frozen dessert mix shall not exceed a coliform count of 10 per gram as computed from the lowest three of the last four samples.

(3) Pasteurized cultured milk products shall not exceed a coliform count of 10 per ml., for three out of the last five samples.

(4) Containers for milk, milk products and frozen desserts shall not exceed the following bacteriological standards:

(a) Bottles and single-service containers, prior to use, shall not exceed a bacterial plate count of one hundred per quart capacity as computed from the lowest three of the last four samples.

(b) Cans, prior to use, shall not exceed a bacterial count of one per square centimeter of surface area of the can as computed from the lowest three of the last four samples.

(c) All multi-use and single service containers shall be free of coliform organisms.

(e) Chemical Standards

Milk shall contain not less than $8\frac{1}{4}$ percent milk solids-non-fat and not less than $3\frac{1}{4}$ percent milkfat.

23 SAMPLING

(a) Bacteriological samples of pasteurized milk and milk products shall be submitted weekly by the plant to a laboratory approved by the Department as employing methods which are in accordance with the Standard Methods recommended by the American Public Health Association. The results of these samples shall be kept on file at the plant for one (1) year, and shall be available for inspection by the Department.

(b) Bacteriological samples of pasteurized frozen desserts shall be submitted monthly as specified in 23 (a).

(c) Phosphatase tests shall be performed weekly on each type of packaged milk or milk products. The results of these tests shall be kept on file at the plant for one (1) year and shall be available for inspection by the Department. In case of a positive phosphatase test, the cause shall be determined and corrected before the milk, milk products, or frozen desserts can be sold as pasteurized milk, milk products or frozen desserts.

(d) Bio-assays of the vitamin D content of a vitamin D milk and a vitamin D skim milk shall be made at least once every three (3) months in a laboratory approved by the Department for such examinations. Reports of these bio-assays shall be sent to the Department. Repeat samples and tests shall be made if the bio-assay of any sample is less than 400 U.S.P. units per quart.