

(b) Requirements. (1) Nonpasteurized egg products which are to be frozen shall be solidly frozen or reduced to a temperature of 10 °F or lower within 60 hours from time of breaking.

(2) Pasteurized egg products which are to be frozen shall be solidly frozen or reduced to a temperature of 10 °F or lower within 60 hours from time of pasteurization.

(3) The temperature of the products not solidly frozen shall be taken at the center of the container to determine compliance with this section.

(c) Containers shall be stacked so as to permit circulation of air around the containers.

(d) The outside of liquid egg containers shall be clean and free from evidence of liquid egg.

(e) Frozen egg products shall be examined by organoleptic examination after freezing to determine their fitness for human food. Any such products which are found to be unfit for human food shall be denatured and any official identification mark which appears on any container thereof shall be removed or completely obliterated and the containers identified as required in §§ 590.840 and 590.860.

§ 590.538 Defrosting facilities.

(a) Approved metal defrosting tanks or vats constructed so as to permit ready and thorough cleaning shall be provided.

(b) Frozen egg crushers, when used, shall be of approved metal construction. The crushers shall permit ready and thorough cleaning and the bearings and housing shall be fabricated in such a manner as to prevent contamination of the egg products.

(c) Service tables shall be of approved metal construction without open seams and the surfaces shall be smooth to allow thorough cleaning.

§ 590.539 Defrosting operations.

(a) Frozen egg products which are to be defrosted shall be defrosted in a sanitary manner.

(b) Each container of frozen eggs shall be checked for condition and odor just prior to being emptied into the crusher or receiving tank. Frozen eggs which have objectionable odors and are unfit for human food (e.g., sour, musty,

fermented, or decomposed odors) shall be denatured.

(c) Frozen whites to be used in the production of dried albumen may be defrosted at room temperature. All other whites shall be defrosted in accordance with paragraph (d) of this section.

(d) Frozen whole eggs, whites and yolks, and yolks may be tempered or partially defrosted for not to exceed 48 hours at a room temperature no higher than 40 °F. or not to exceed 24 hours at a room temperature above 40 °F.: *Provided*, That no portion of the defrosted liquid shall exceed 50 °F. while in or out of the container.

(1) Frozen eggs packed in metal or plastic containers may be placed in running tap water (70 F° or lower) without submersion to speed defrosting.

(2) The defrosted liquid shall be held at 40 °F. or less, except for product to be pasteurized or stabilized by glucose removal as provided in § 590.530. Defrosted liquid shall not be held more than 16 hours prior to processing or drying.

(e) Sanitary methods shall be used in handling containers and removing egg product.

(f) Crushers and other equipment used in defrosting operations shall be dismantled at the end of each shift and shall be washed, rinsed, and sanitized.

(1) Where crushers are used intermittently, they shall be flushed after each use and again before being placed in use.

(2) Floors and work tables shall be kept clean.

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§ 590.540 Spray process drying facilities.

(a) Driers shall be of a continuous discharge type and so constructed and equipped to prevent an excess accumulation of powder in the drier, bags, and powder conveyors.

(b) Driers shall be of approved construction and materials, with welded seams, and the surfaces shall be smooth to allow for thorough cleaning.

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(c) Driers shall be equipped with approved air intake filters.

(d) Air shall be drawn into the drier from sources free from foul odors, dust, and dirt.

(e) Indirect heat or the use of an approved premixing device or other approved devices for securing complete combustion in direct-fired units is required. A premix-type burner, if used, shall be equipped with approved air filters at blower intake.

(f) High-pressure pump heads and lines shall be of stainless steel construction or equivalent which will allow for thorough cleaning.

(g) Preheating units, if used, shall be of stainless steel construction, or equivalent which will allow thorough cleaning.

(h) Powder conveying equipment shall be so constructed as will facilitate thorough cleaning.

(i) Sifters shall be constructed of an approved metal or metal lined interior. The sifting screens and frames shall be of an approved metal construction. Sifters shall be so constructed that accumulations of large particles or lumps of dried eggs can be removed continuously while the sifters are in operation.

[36 FR 9814, May 28, 1971; 36 FR 10841, June 4, 1971. Redesignated at 42 FR 32514, June 27, 1977, and further redesignated at 46 FR 63203, Dec. 31, 1981]

§ 590.542 Spray process drying operations.

(a) The drying room shall be kept in a clean condition and free of flies, insects, and rodents.

(b) Low-pressure lines, high-pressure lines, high- and low-pressure pumps, homogenizers, and pasteurizers shall be cleaned by acceptable in-place cleaning methods or dismantled and cleaned after use or as necessary when operations have been interrupted.

(1) Spray nozzles, orifices, cores, or whizzers shall be cleaned immediately after cessation of drying operations.

(2) Equipment shall be sanitized within 2 hours prior to resuming operations.

(c) Drying units, conveyors, sifters, and packaging systems shall be cleaned whenever wet powder is encountered or when other conditions occur which would adversely affect the product. The

complete drying unit, including sifters, conveyors, and powder coolers shall be either wet washed or dry cleaned. A combination of wet washing and dry cleaning of the complete drying unit shall not be permitted unless that segment of the unit to be cleaned in a different manner is completely detached or disconnected from the balance of the drying unit.

(1) Sifters and conveyors used for other than dried albumen shall be cleared of powder when such equipment is not to be used for a period of 24 hours or longer.

(2) Collector bags shall be cleaned as often as needed to maintain them in an acceptable clean condition.

(d) Powder shall be sifted and the screen shall be replaced whenever torn or worn.

(e) Accumulations of large particles or lumps of dried eggs shall be removed from the sifter screens continuously.

(f) All openings into the drier around ports, augers, high-pressure lines, etc., shall be closed to the extent possible during the drying operation to prevent entrance of nonfiltered air.

(g) Openings into the drying unit shall be closed when the drier is not in use, except when the drying unit has been completely emptied of powder and wet washed. This includes, but is not limited to, openings, for the air intake and exhaust systems, nozzle openings, ports, augers, etc.

§ 590.544 Spray process powder; definitions and requirements.

(a) Definition of product:

(1) *Primary powder* is that powder which is continuously removed from the primary or main drying chamber while the drying unit is in operation.

(2) *Secondary powder* is that powder which is continuously and automatically removed from the secondary chamber and/or bag collector chamber while the drying unit is in operation.

(3) *Sweep-down powder* is that powder which is recovered in the brush-down process from the primary or secondary chamber and conveyors.

(4) *Brush bag powder* is that powder which is brushed from the collector bags.

(b) Secondary powder shall be continuously discharged and mixed with