in contact with liquid eggs or exposed edible products shall be cleaned to eliminate organic matter and inorganic residues. This may be accomplished by any sanitary means but it is preferable (unless high pressure cleaning is used) to flush soiled equipment with clean cool water, dismantle it when possible, wash by brushing with warm water containing a detergent and followed by rinsing with water. It is essential to have the equipment surfaces thoroughly clean if effective sanitizing is to be attained.

(2) Equipment shall be cleaned with such frequency as is specified elsewhere under the sanitary requirements for the particular kind of operation and type of equipment involved.

(3) C.I.P. (cleaned-in-place) shall be considered to be acceptable only if the methods and procedures used accomplish cleaning equivalent to that obtained by thorough manual washing and sanitizing of dismantled equipment. The Administrator shall determine the acceptability of C.I.P. cleaning procedures and may require bacteriological tests and periodic dismantling of equipment as a basis for such determination.

(b) *Sanitizing.* (1) Sanitizing shall be accomplished by such methods as approved by the Administrator.

(i) Chemicals and compounds used for sanitizing shall have approval by the Administrator prior to use.

(ii) Sanitizing by use of hypochlorites or other approved sanitizing solutions shall be accomplished by subjecting the equipment surfaces to such sanitizing solution containing a maximum strength of 200 p.p.m. of available chlorine or its equivalent. These solutions shall be changed whenever the strength drops to 100 p.p.m. or less of available chlorine or its equivalent.

(2) Shell eggs which have been sanitized and equipment which comes in contact with edible products shall be rinsed with clean water after sanitizing if other than hypochlorites are used as sanitizing agents unless otherwise approved by the Administrator.

§ 590.560 Health and hygiene of personnel.

(a) Personnel facilities, including toilets, lavatories, lockers, and dressing rooms shall be adequate and meet State and local requirements for food processing plants.

(b) Toilets and dressing rooms shall be kept clean and adequately ventilated to eliminate odors and kept adequately supplied with soap, towels, and tissues. Toilet rooms shall be ventilated to the outside of the building.

(c) No person affected with any communicable disease in a transmissible stage or a carrier of such disease, or with boils, sores, infected wounds, or wearing cloth bandages on hands shall be permitted to come in contact with eggs in any form or with equipment used to process such eggs.

(d) Workers coming into contact with liquid or dried eggs, containers, or equipment shall wear clean outer uniforms.

(e) Plant personnel handling exposed edible product shall wash their hands before beginning work, and upon returning to work after leaving the work room.

(f) Expectorating, or other unsanitary practices, shall not be permitted.

(g) Use of tobacco in any form or the wearing of jewelry, nail polish, or perfumes shall not be permitted in any area where edible products are exposed.

(h) Hair nets or caps shall be properly worn by all persons in breaking and packaging rooms.

§ 590.570 Pasteurization of liquid eggs.

(a) Pasteurization facilities: The facilities for pasteurization of egg products shall be adequate and of approved construction so that all products will be processed as provided for in this section. Pasteurization equipment for liquid egg product shall include a holding tube, an automatic flow diversion valve, thermal controls, and recording devices to determine compliance for pasteurization as set forth in paragraph (b) of this section. The temperature of the heated liquid egg product shall be continuously and automatically recorded during the process.

(b) Pasteurizing operations: Every particle of all products must be rapidly heated to the required temperature and held at that temperature for the required minimum holding time as set forth in this section. The temperatures and holding times listed in Table I of

this section are minimum. The product may be heated to higher temperatures and held for longer periods of time. Pasteurization procedures shall assure complete pasteurization, and holding, packaging, facilities and operations shall be such as to prevent contamination of the product.

TABLE I—PASTEURIZATION REQUIREMENTS [1]

Liquid egg product	Minimum temperature requirements (°F.)	Minimum holding time requirements (Minutes)
Albumen (without use of chemicals)	134	3.5
	132	6.2
Whole egg	140	3.5
Whole egg blends (less than 2 percent added nonegg ingredients)	142	3.5
	140	6.2
Fortified whole egg and blends (24–38 percent egg solids, 2–12 percent added nonegg ingredients)	144	3.5
	142	6.2
Salt whole egg (with 2 percent or more salt added)	146	3.5
	144	6.2
Sugar whole egg (2–12 percent sugar added)	142	3.5
	140	6.2
Plain yolk	142	3.5
	140	6.2
Sugar yolk (2 percent or more sugar added)	146	3.5
	144	6.2
Salt yolk (2–12 percent salt added)	146	3.5
	144	6.2

[1] Pasteurization of egg products not listed in this table shall be in accordance with paragraph (c) of this section.

(c) Other methods of pasteurization may be approved by the Administrator when such treatments give equivalent effects to those specified in paragraph (b) of this section for those products or other products and results in a salmonella negative product.

§ 590.575 Heat treatment of dried whites.

Heat treatment of dried whites is an approved method for pasteurization and the product shall be heated throughout for such times and at such temperatures as will result in salmonella negative product.

(a) The product to be heat treated shall be held in the heat treatment room in closed containers and shall be spaced to assure adequate heat penetration and air circulation. Each container shall be identified as to type of product (spray or pan dried) and with the lot number or production code number.

(b) The minimum requirements for heat treatment of spray or pan dried albumen shall be as follows:

(1) Spray dried albumen shall be heated throughout to a temperature not less than 130 °F and held continuously at such temperature not less than 7 days and until it is salmonella negative.

(2) Pan dried albumen shall be heated throughout to a temperature of not less than 125 °F and held continuously at such temperature not less than 5 days and until it is salmonella negative.

(3) Methods of heat treatment of spray dried or pan dried albumen, other than listed in paragraphs (b) (1) and (2) of this section, may be approved by the Administrator upon receipt of satisfactory evidence that such methods will result in salmonella negative products.

(c) Dried whites which have been heat treated in the dried form shall be sampled and analyzed for the presence of Salmonellae as required in § 590.580.

(d) Records shall be maintained for 1 year of the following:

(1) Types of product;

(2) Lot number;

(3) Heat treatment room temperatures;

(4) Product temperatures;

(5) Length of time product is held in heat treatment room;

(6) Results of all laboratory analyses made for the presence of Salmonellae.

(e) Dried whites processed and tested in accordance with all of the applicable requirements specified in this section may be labeled ''Pasteurized.''

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LABORATORY

§ 590.580 Laboratory tests and analyses.

The official plant, at their expense, shall make tests and analyses to determine compliance with the Act and the regulations.

(a) Samples shall be drawn from liquid, frozen or dried egg products and analyzed for compliance with the