

**Department of Primary Industry**

# **AUSTRALIAN CODE OF PRACTICE FOR DAIRY FACTORIES**

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## **Section H**

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# Section H— Hygienic manufacturing practice for butter, butter/oil and reworking of butter for printing

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# **Section H— Hygienic manufacturing practice for butter, butter/oil and reworking of butter for printing**

## **Part I—General**

### **Scope**

- H1.1 The Code of Practice sets out general hygienic and manufacturing practices for the manufacture of butter, butter/oil blend and the reworking, printing, packaging and distribution of butter and butter/oil blends.

### **Definitions**

- H2.1 Butter and butter/oil blend includes the product derived from continuous processing or batch processing (churning) into either bulk or small retail packages.

## **Part II—Establishment: design and facilities**

### **Test room**

- H3.1 A test room containing equipment and materials for the testing of the product should be available.

### **Equipment and utensils**

- H4.1 The plant for pasteurising or pre-heating of cream should be provided with a thermometer and an automatic temperature recorder. Refrigeration equipment should be equipped with thermometers. The thermometers should be located so as to indicate the temperature of cream, butter or butter/oil blend at stages of neutralisation, pasteurising, deodorising, storing, churning and refrigeration. Temperatures should be recorded and the record initialled by the operator in charge of the process.
- H4.2 Facilities for neutralisation testing and moisture testing should be provided.
- H4.3 Pasteuriser/deodorisers should be provided with adequate steam and water.
- H4.4 Churns or mechanised butter makers should be provided with adequate chilled water.

## **Part III—Establishment: hygiene requirements**

### **Maintenance**

- H5.1 Special attention should be given to cracks or hairline fractures where butter and butter/oil blend machines are subjected to high variances in temperature or load stress.
- H5.2 Butter printers should be checked daily for sweating glands.

### **Cleaning and sanitising**

- H6.1 To prevent contamination, all equipment and utensils should be cleaned frequently and sanitised whenever circumstances demand. All wet product contact surfaces should be cleaned immediately after use.
- H6.2 All equipment should be sanitised before use.
- H6.3 Adequate precautions should be taken to prevent raw materials, product or packaging materials from being contaminated with water, detergents, sanitisers or their solutions during the cleaning or sanitising of rooms, equipment or utensils. Detergents and sanitisers should be suitable for the purpose intended and should conform to public health requirements and comply with the appropriate Australian Standard. Any residues of these agents on a surface which may come into contact with a food should be removed by thorough rinsing with potable water.
- H6.4 Either immediately after cessation of work for the day or at such times as may be appropriate, floors, including drains, auxiliary equipment and walls of food handling areas should be thoroughly cleaned.
- H6.5 Roadways and yards in the immediate vicinity of, and servicing the premises, should be kept clean and free from any refuse accumulation.

## **Part IV—Establishment: hygiene processing requirement**

### **Raw material requirements**

- H7.1 All cream used in the manufacture of butter and butter/oil blend should have been produced under hygienic conditions in compliance with the provisions of the official authority having jurisdiction. The same provisions apply for reworking of stored butter.
- H7.2 Specified tests and sensory grading should be carried out on incoming cream or stored butter to ensure that any unsatisfactory raw material is withheld from processing.
- H7.3 Raw materials and ingredients stored on the premises should be maintained under conditions that will prevent spoilage, protect against contamination and minimise damage. Stocks of raw materials and ingredients should be properly rotated.

### **Prevention of cross contamination**

- H8.1 Effective measures should be taken to prevent contamination of pasteurised or heat treated product by direct or indirect contact with material from an earlier stage of the process. In this regard, it is important to restrict the movement of product to specifically designated areas.

- H8.2 Persons who have come into contact with raw milk or other raw materials should, where possible, not handle any product which has been pasteurised or heat treated unless and until they have discarded all protective clothing which may have been contaminated by such raw materials.
- H8.3 If there is a likelihood of contamination, hands should be thoroughly washed between handling products at different stages of processing.
- H8.4 Any area in which any butter or butter/oil blend is prepared, processed or stored should be used at any one time only for that purpose or for the preparation of other products subject to the same hygienic requirements. If the area is used for the processing of products requiring lesser hygienic standards, the arrangements should be made to ensure that there is no resultant contamination of the butter/oil blend.

### **Processing**

- H9.1 Processing should be supervised by a qualified butter maker.
- H9.2 All steps in the production process should be performed without unnecessary delay and under conditions which will prevent the possibility of contamination, deterioration, or the development of pathogenic and spoilage organisms.
- H9.3 After inspection and testing, incoming raw cream or stored butter should be processed as soon as possible or stored at a temperature below 4°C.
- H9.4 Raw cream should be adequately heat treated or pasteurised. A continuous record should be made of all pasteurisation or heat treatment operations. These charts should be dated and signed by the operator and retained for inspection for a period of two years.
- H9.5 Treated cream should be held in a sanitised and mechanically chilled vat fitted with automatic temperature control.
- H9.6 Monitoring of moisture during churning is necessary to ensure compliance with standards.
- H9.7 Immediately following manufacture of butter or butter/oil blends, the product should be cooled to a temperature at which spoilage is minimised. This also applies to butter that is reworked and printed.
- H9.8 When breakdowns or unplanned interruptions in processing occur which disrupt the normal flow of product, special precautions must be taken to ensure that the product is still of an acceptable standard.
- H9.9 Product that is recovered from equipment or which is not obtained as part of the normal process should not be included in the end product.

### **Packaging**

- H10.1 All packaging material should be stored in a clean and hygienic manner. The material should be appropriate for the product to be packed and for the expected conditions of storage. It should not transmit any objectionable odours or substance to the product. The packaging material should be sound, provide appropriate protection from contamination and conform to the relevant Australian Standards.
- H10.2 Product containers should not be used for any purpose which could lead to product contamination. Containers should be inspected immediately before use. Only packaging material required for immediate use should be kept in the packing or filling area.

- H10.3 Precautions should be taken to minimise product spillage. The packages should be closed immediately after filling and exteriors should be cleaned if necessary.
- H10.4 Packaging should be done under conditions which preclude the introduction of contamination into the product.

#### **Product coding**

- H11.1 Products sold or otherwise distributed from an establishment should be coded to enable identification of lots and, when necessary, segregation of specific lots which may have become contaminated or otherwise unfit for their intended use. Sequential numbering of cartons of butter from continuous buttermaking machines is desirable. Records adequate to identify the processing history of each lot should be retained for a period that exceeds the shelf life of the product, except that, unless a specific need exists, they need not be retained for more than two years.

#### **Storage and transportation of end product**

- H12.1 The end product should be stored and transported in accordance with the "Guidelines for the Cold Storage and Interstate Transfer of Butter", November 1979.

#### **Sampling and laboratory quality procedures**

- H13.1 The establishment should be provided with or have access to a laboratory with appropriate testing facilities, and trained staff competent to draw samples and to perform specified tests to establish the quality integrity of raw materials, process and finished product. Quality specifications for raw materials, product-in-process, finished products, manufacturing environment and ancillary materials (e.g. packaging, detergents and sanitisers, etc.) should be prepared and documented along with sampling plans and procedures, test methods and quality inspection procedures, to form component parts of the company quality manual.
- H13.2 Analytical procedures should follow recognised standard methods.
- H13.3 Provision must be made for systematic microbiological tests to determine that heat treatment and sanitising processes have been successfully accomplished, particularly at critical points. This includes plate counts, coliforms yeasts and moulds, staphylococci, psychotrophs, monitoring of microbiological quality of raw materials and the manufacturing environment.
- H13.4 At least five samples should be taken from the daily output from each plant. The first sample should be immediately after start-up, another in the middle of the run and the final one just before the plant is stopped for cleaning. The samples should relate to vats and, where applicable, churns. The remaining two samples should be taken at intermediate stages.
- H13.5 The results of microbiological testing should be assessed daily. In the event of a significant deviation beyond specified limits for the product or process, a prompt investigation should be initiated to enable corrective action to be undertaken.
- H13.6 The records of microbiological examinations should be retained at each plant for two years. It would also be appropriate to maintain the microbiological records relating to the various manufacturing processes. All records should be available for inspection as required. Means of identifying batch samples should also be provided.
- H13.7 The person in charge of the quality control program should have authority commensurate with the responsibilities associated with planning, co-ordination, executing and maintaining the plant quality control programs.

## **Part V—End product specifications**

### **Specifications for butter and butter/oil**

- H14.1 Flavour specifications, chemical specifications and microbiological specifications for butter and butter/oil blends are to be in accordance with the "Guidelines for the Cold Storage and Interstate Transportation of Butter".