

1987 No. 229

MILK

Milk Regulations (Northern Ireland) 1987

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The Department of Agriculture in exercise of the powers conferred on it by Articles 4, 5(3) and (6), 6(1), 7 and 9(1) of the Milk (Northern Ireland) Order 1983(a) and of every other power enabling it in that behalf, with the concurrence of the Department of Health and Social Services(b) insofar as they relate to any process of direct heat treatment by steam, hereby makes the following Regulations:

(a) S.I. 1983/148 (N.I. 2)

(b) See S.I. 1983/148 (N.I. 2) Art. 9(2)

## PRELIMINARY

*Citation and commencement*

1. These Regulations may be cited as the Milk Regulations (Northern Ireland) 1987 and shall come into operation on 1st July 1987.

*Interpretation*

2. In these Regulations—

- “cleanse” means rinse, wash and sterilise in accordance with these Regulations;
- “dairy herd” or “herd” means all the cows kept by the holder of a milk licence or an untreated milk licence for the production of milk for sale and includes such cows as are temporarily not producing milk;
- “handling” in relation to milk means any process involved in the production or processing of milk;
- “licence holder” means the holder of a licence under the Order;
- “milking bail” means a prefabricated milking parlour capable of being readily moved as a unit;
- “milk-based drink” means a liquid drink (other than a fermented drink) being a mixture comprising by weight at least 85% milk and comprising as to the remainder any of, or any mixture of, the ingredients listed in the First Schedule;
- “milking passage” means the floor space in a byre behind the cows;
- “minimum durability date” means the date up to and including the date on which the milk can reasonably be expected to retain its specific properties if properly stored;
- “the Order” means the Milk (Northern Ireland) Order 1983;
- “raw milk” means milk which has not been subjected to heat treatment;
- “retail container” means any bottle, carton, can or other container in which milk is sold to consumers;
- “sell” includes offer or expose for sale, and supply of milk under any arrangements which may be in operation for the free supply of milk to a consumer;
- “selling milk by retail” means selling milk to a consumer;
- “selling milk by wholesale” means selling milk other than by retail;
- “semi-skimmed milk” means milk the butterfat content of which is not less than 1.5% and not more than 1.8%;
- “skimmed milk” means milk the butterfat content of which is not more than 0.3%;
- “ultimate consumer” means any person who buys otherwise than—
  - (a) for the purpose of resale; or
  - (b) for the purposes of a catering business; or
  - (c) for the purposes of a manufacturing business;

“whole milk” means the milk produced by the natural secretion of one or more cows the butterfat content of which has not been altered and which is not less than 3.0%.

## PART II

### ISSUE OF LICENCES

#### *Form of licence*

3. A licence shall be in one of the forms set out in the Second Schedule.

#### *Conditions*

4.—(1) A licence shall be issued and held subject to the conditions prescribed by these Regulations.

(2) A licence shall not be transferable.

#### *Duration*

5.—(1) A licence issued before 1st November 1987 to a licence holder in respect of premises situated in County Londonderry or County Tyrone shall, unless suspended or revoked by the Department or surrendered by the licence holder, remain in force until 31st October 1987 and shall be renewable on 1st November 1987 and at the end of each period of 3 years thereafter.

(2) A licence issued before 1st November 1988 to a licence holder in respect of premises situated in County Down or County Fermanagh or the local government district of Belfast shall, unless suspended or revoked by the Department or surrendered by the licence holder, remain in force until 31st October 1988 and shall be renewable on 1st November 1988 and at the end of each period of 3 years thereafter.

(3) A licence issued before 1st November 1989 to a licence holder in respect of premises situated in County Antrim or County Armagh shall, unless suspended or revoked by the Department or surrendered by the licence holder, remain in force until 31st October 1989 and shall be renewable on 1st November 1989 and at the end of each period of 3 years thereafter.

(4) A licence issued after 31st October 1987 to a licence holder in respect of premises situated in County Londonderry or County Tyrone shall unless suspended or revoked by the Department or surrendered by the licence holder, remain in force until the end of the 3 year period prescribed in paragraph (1) in which it was issued.

(5) A licence issued after 31st October 1988 to a licence holder in respect of premises situated in County Down or County Fermanagh or the local government district of Belfast shall, unless suspended or revoked by the Department or surrendered by the licence holder, remain in force until the end of the 3 year period prescribed in paragraph (2) in which it was issued.

(6) A licence issued after 31st October 1989 to a licence holder in respect of premises situated in County Antrim or County Armagh shall, unless suspended or revoked by the Department or surrendered by the licence holder, remain in force until the end of the 3 year period prescribed in paragraph (3) in which it was issued.

(7) For the purposes of this Regulation County Down and County Antrim shall be deemed to exclude the local government district of Belfast.

### PART III

#### MILK DESIGNATIONS

##### *Milk designations*

6. The following designations shall apply to milk of the descriptions hereinafter set forth in relation thereto:

- (a) raw whole milk which has been produced by the holders of untreated milk licences and which has been filled into retail containers in accordance with these Regulations shall be designated as "untreated milk";
- (b) whole milk which has been produced by the holders of milk licences or untreated milk licences and which has been pasteurised and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as "pasteurised milk";
- (c) semi-skimmed milk which has been derived in accordance with these Regulations from whole milk produced by the holders of milk licences or untreated milk licences and which has been pasteurised and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as "pasteurised semi-skimmed milk";
- (d) skimmed milk which has been derived in accordance with these Regulations from whole milk produced by the holders of milk licences or untreated milk licences and which has been pasteurised and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as "pasteurised skimmed milk";
- (e) whole milk which has been produced by the holders of milk licences or untreated milk licences and which has been ultra-heat treated and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as "ultra-heat treated milk";
- (f) semi-skimmed milk which has been derived in accordance with these Regulations from whole milk produced by the holders of milk licences or untreated milk licences and which has been ultra-heat treated and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as "ultra-heat treated semi-skimmed milk";
- (g) skimmed milk which has been derived in accordance with these Regulations from whole milk produced by the holders of milk

licences or untreated milk licences and which has been ultra-heat treated and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “ultra-heat treated skimmed milk”;

- (h) whole milk which has been produced by the holders of milk licences or untreated milk licences and which has been sterilised in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “sterilised milk”;
- (i) semi-skimmed milk which has been derived in accordance with these Regulations from whole milk produced by the holders of milk licences or untreated milk licences and which has been sterilised in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “sterilised semi-skimmed milk”;
- (j) skimmed milk which has been derived in accordance with these Regulations from whole milk produced by the holders of milk licences or untreated milk licences and which has been sterilised in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “sterilised skimmed milk”;
- (k) milk-based drink containing whole milk produced by the holders of milk licences or untreated milk licences or milk, the butterfat content of which has been adjusted in accordance with these Regulations and which has been derived from whole milk produced by the holders of milk licences or untreated milk licences and which has been pasteurised and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “pasteurised milk-based drink”;
- (l) milk-based drink containing whole milk produced by the holders of milk licences or untreated milk licences or milk, the butterfat content of which has been adjusted in accordance with these Regulations and which has been derived from whole milk produced by the holders of milk licences or untreated milk licences and which has been ultra-heat treated and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “ultra-heat treated milk-based drink”; and
- (m) milk-based drink containing whole milk produced by the holders of milk licences or untreated milk licences or milk, the butterfat content of which has been adjusted in accordance with these Regulations and which has been derived from whole milk produced by the holders of milk licences or untreated milk licences and which has been sterilised and filled into retail containers in accordance with these Regulations, and which, if it has been stored or transported, has been stored or transported in accordance with these Regulations, shall be designated as “sterilised milk-based drink”.

## UNTREATED MILK LICENCES AND MILK LICENCES

*Untreated milk licences*

7. Licences referred to in Article 4(1)(a) of the Order as “farm bottling licences” shall be called “untreated milk licences”.

*Sale of milk*

8. A holder of a milk licence or an untreated milk licence shall not sell any milk other than whole milk.

*Premises*

9.—(1) A holder of a milk licence or an untreated milk licence shall provide and maintain premises, in these Regulations referred to as the “prescribed premises”, as are prescribed by this Regulation.

(2) Prescribed premises shall be reserved for the purposes specified or permitted by these Regulations, and shall not be used for any other purpose.

(3) The prescribed premises shall comprise:

(a) a dairy which shall be used for the handling of milk and for the cleansing and storage of vessels and appliances; and

(b) a milking house which shall be used for all milking and which may consist of:

(i) a milking parlour in which cows shall be milked but not housed otherwise than during milking and which may, in addition to the dairy, be used for the cleansing and storage of vessels and appliances; or

(ii) a milking bail in which cows shall be milked but not housed otherwise than during milking; or

(iii) a byre in which the cows shall be milked and which may also be used for the housing of cows otherwise than during milking.

(4) Any building or yard used or intended to be used for the housing, feeding or exercising of cows at any time other than during milking, or for the assembly and dispersal of cows in connection with milking shall form part of the prescribed premises and shall be subject to the provisions of these Regulations.

(5) The prescribed premises shall be so constructed, arranged and equipped as to enable the licence holder to comply with the requirements of these Regulations having regard to the size of his dairy herd and the quantity of milk produced and handled; and in particular each part of the prescribed premises shall conform to the relevant specification set out in the Third Schedule.

(6) Premises other than the prescribed premises shall not be used for any purpose referred to in this Regulation, but this paragraph shall not operate to prevent the isolation of a sick or diseased cow or the housing of a dry or calving cow in a building not being part of the prescribed premises.



*Cleanliness of premises and animals*

**10.**—(1) Every part of the interior of the prescribed premises including any fixtures and appliances therein shall be kept clean.

(2) No bedding shall be brought into a milking house other than a byre.

(3) Dusty or offensive matter shall not be handled in or in proximity to a dairy or a milking house in such a manner as to create a risk of contaminating milk.

(4) All excreta, soiled bedding or other waste matter shall be removed from a byre at least once each day and immediately prior to milking, the milking passage shall be clean and all practicable steps shall be taken to keep it clean throughout the process of milking.

(5) All excreta and other waste matter shall be removed from a milking parlour as soon after milking as practicable and immediately before milking commences the milking parlour shall be clean and all practicable steps shall be taken to keep it clean throughout the process of milking.

(6) A milking bail shall not be used otherwise than on a clean area of concrete or other impervious and washable material or on fresh ground which is free from accumulations of excreta or other waste matter.

(7) A building or yard forming part of the prescribed premises and any bedding therein shall be maintained in such a state of cleanliness that the cows therein shall not become unreasonably soiled.

(8) All excreta, soiled bedding or other waste matter shall when removed from the prescribed premises be so disposed of that the surroundings of the milking house and dairy can be easily kept clean and that offensive odours therefrom shall not reach any part of the dairy or milking house and that milk therein shall not be exposed to contamination by dirt, dust or flies from such excreta, soiled bedding or other waste matter.

(9) All immediate approaches to the prescribed premises shall be kept in a clean condition.

(10) The conditions and manner in which cows are kept either within any part of the prescribed premises or elsewhere shall be such as to prevent excessive soiling of the animals.

(11) The hair on the udder and flanks and hindquarters of each cow shall be kept short.

*Pre-milking conditions*

**11.**—(1) No dry bedding or other dusty matter shall be moved in the milking house during milking or within 30 minutes before milking commences.

(2) Fodder or feed residues liable to impart an abnormal flavour to milk shall not be kept in a milking house during milking or within 30 minutes before the commencement of milking.

(3) All dirt shall be removed from the udder, flanks, hindquarters and tail of each cow before milking commences.

(4) Udders and teats shall be carefully cleaned before milking commences.

*Milking*

12.—(1) Milking shall be carried out in good light.

(2) Every person engaged in milking shall thoroughly wash and dry his hands before milking and shall ensure throughout the milking that as far as practicable his hands shall remain clean, dry and free from contamination.

(3) Udders and teats shall be kept clean and as far as practicable dry during milking.

(4) The first few streams of foremilk from each teat shall be drawn separately by hand into a receptacle, shall be examined immediately by sight and smell and discarded or disposed of in such a manner as to avoid the risk of infection of the cows or the contamination of other milk, but where milking is done in a milking parlour, a receptacle need not be used.

(5) Where it appears from the examination of the foremilk that the milk from a cow is abnormal no milk from that milking of the cow shall be sold.

(6) Milk drawn from any cow during 3 days after calving or during such longer period in which, upon examination, the milk is seen to contain colostrum, shall not be sold.

(7) Milking in a milk bail shall be carried out by means of a milking machine and the milk shall be drawn into closed vessels and shall not be left uncovered or transferred from one vessel to another until it has been removed to the dairy.

*After milking*

13. The milk from each cow shall not be permitted to remain uncovered in a milking house and shall be transferred as soon as practicable in a closed container or by pipeline to the dairy where it shall be cooled to a temperature of not more than 5°C as rapidly as possible and in any event within 2 hours of milking and it shall be maintained at that temperature while on the prescribed premises, save for temporary rises in temperature during subsequent milkings.

*Storage and dispatch of milk*

14.—(1) Save for any purpose connected with the dispatch thereof, milk, while on the prescribed premises, shall be kept in the dairy and while being so kept shall be protected from the direct rays of the sun and from contamination from any source.

(2) Milk intended for sale in bulk shall be kept in a closed storage tank.

(3) Storage tanks used for the dispatch of milk shall be labelled with either the name and address of the producer or marked with an identification number allocated to the producer by the Milk Marketing Board for Northern Ireland.

(4) Unless the Department gives its prior written approval, milk which is offered for sale in bulk shall be collected from the holder of a milk licence or an untreated milk licence, or delivered to the processing premises, not later than 2 days following the day of production.

*Milk from diseased animals*

15.—(1) A cow which shows evidence of any disease, except mastitis, likely to affect the milk injuriously shall be segregated from the rest of the

herd or removed from the herd as circumstances may require, and while segregated or removed, its milk shall not be disposed of or sold otherwise than in accordance with instructions issued by the Department, and milk from a cow which shows evidence of mastitis shall not be sold.

(2) A holder of a milk licence or an untreated milk licence shall not offer for sale any milk which may be contaminated as a result of a cow having been treated with any drug or other substance likely to be secreted in the milk.

(3) A holder of a milk licence or an untreated milk licence shall keep records of the segregation or removal of animals including in the case of removal the method by which any animal has been disposed of.

### *Vessels and appliances*

**16.**—(1) A holder of a milk licence or an untreated milk licence shall ensure that vessels or appliances shall:

- (a) as soon as practicable after use be thoroughly rinsed with water;
- (b) then be washed thoroughly;
- (c) then have all the surfaces thereof which come into contact with milk either sterilised by one of the methods set out in paragraph (2) or maintained in a manner which inhibits microbial growth on those surfaces; and
- (d) before further use have all traces of chemicals used removed by rinsing with water.

(2) Sterilising methods are—

- (a) scalding with boiling water or steam; or
- (b) using a chemical sterilising agent approved by the Minister of Agriculture, Fisheries and Food, the Secretary of State for Social Services and the Secretary of State for Wales under Regulation 27(6) of the Milk and Dairies (General) Regulations 1959(a).

## PART V

### SPECIAL PROVISIONS APPLICABLE TO HOLDERS OF UNTREATED MILK LICENCES

#### *General*

**17.** It shall be a condition of the holding of an untreated milk licence that the holder thereof shall sell as untreated milk or manufacture into cream for sale all or part of his total daily production of milk.

#### *Cleansing of re-usable retail containers*

**18.**—(1) Re-usable retail containers which have been used to contain milk shall as soon as practicable after they have been emptied or returned empty be thoroughly washed and rinsed; and before being used to contain untreated milk they shall:

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(a) S.I. 1959/277 (p. 1351) as amended by S.I. 1978/272

- (a) be cleansed and drained as part of a continuous mechanical process of cleansing and filling; or
- (b) be enclosed in a steam container for a continuous period of not less than 15 minutes during which the internal temperature of the container shall be maintained at not less than 98°C and shall be filled immediately after removal from the steam container; or
- (c) be cleansed by the holder of a distributor's licence on behalf of the holder of an untreated milk licence subject to the following conditions—
  - (i) they shall be cleansed, drained, closed and sealed with a metal cap overlapping the lip as part of a continuous operation of cleansing, draining, closing and sealing;
  - (ii) during transport to the premises of the holder of an untreated milk licence they shall be protected from contamination;
  - (iii) the holder of an untreated milk licence shall store such re-usable retail containers in his dairy and the cap shall not be removed until immediately before filling;
  - (iv) the holder of an untreated milk licence shall, before using any such re-usable retail container, ensure that it is free from contamination, and, if he has any reason to believe that it is not, he shall re-cleanse it in accordance with sub-paragraph (a) or (b);
  - (v) caps shall not be removed otherwise than by means of a sterile instrument.

(2) Such water heating facilities shall be provided and such clean hot and cold water and steam shall be supplied in the prescribed premises in such quantities as are necessary to enable the holder of an untreated milk licence to comply with the provisions of this Regulation.

### *Packaging*

19.—(1) Untreated milk shall be filled into retail containers of a capacity not exceeding 2 litres in the dairy forming part of the prescribed premises in which the milk has been produced; and untreated milk shall be stored at a temperature of not more than 7°C and shall be maintained at such temperature whilst at the premises of the holder of the untreated milk licence.

(2) Retail containers shall be capable of being hygienically filled and sealed.

(3) Bottles shall, immediately after being filled, be securely closed and sealed by mechanical means with a metal cap overlapping the lip; and caps shall be cut and formed direct from a continuous roll of metal foil as part of the mechanical process of capping and sealing or shall be supplied in sealed cartridges or other containers and handled in such a manner as will protect them from contamination.

(4) Retail containers other than bottles shall be securely sealed immediately after they are filled.

(5) Retail containers shall be marked with the words "Raw Unpasteurised Milk" in coloured lettering and where a container is a bottle the words shall appear elsewhere than on the cap.

- (6) Retail containers or bottle caps shall be clearly marked with—
- (a) in the case of milk filled into bottles, the name or licence number of the licence holder or the name of the farm; and
  - (b) in the case of milk filled into retail containers other than bottles:
    - (i) the name or business name and address of the licence holder;
    - (ii) without prejudice to the requirements of Article 4 of the Weights and Measures (Milk) Order (Northern Ireland) 1980(a) an indication of the net quantity; and
    - (iii) an indication of the minimum durability of the milk and any storage conditions which need to be observed if the milk is to meet this indication of minimum durability.
- (7) The minimum durability of the milk shall be indicated by—
- (a) the words “best before” followed by the minimum durability date, which may be expressed in terms of a day and a month only; or
  - (b) the words “sell by” followed by the latest recommended date of sale of the milk, expressed in terms of a day and a month only, and an indication of the period from the date of purchase for which the milk can reasonably be expected to retain its specific properties, if properly stored.

(8) The minimum durability date or the latest recommended date of sale may appear separately from the words “best before” or “sell by” provided that these words are followed by a reference to the place where the date appears.

(9) All printed matter on retail containers other than bottles shall be green in colour.

(10) The particulars required to be marked on retail containers in accordance with paragraphs (5) and (6) shall be easy to understand and shall be marked in a conspicuous place in such a way as to be easily visible, clearly legible and indelible and such particulars shall not in any way be hidden, obscured or interrupted by other written or pictorial matter.

(11) The particulars required to be marked on retail containers other than bottles in accordance with paragraphs 5 and 6(b)(ii) and (iii) shall appear in the same field of vision.

## PART VI

### HEAT TREATMENT

#### *Interpretation*

20. In this Part, in Parts VII and VIII, the Seventh Schedule, Eighth Schedule and the Tenth Schedule “milk” includes milk-based drink except—

- (a) where otherwise specified; and
- (b) in Regulation 37(2) and (3) and in the Seventh Schedule paragraphs 1(1), 1(2) and 5(3)(a).

*Premises*

21.—(1) The holder of a distributor's licence shall not subject milk to heat treatment in premises which do not conform to the requirements set out in Part I of the Third Schedule and the requirements of this Regulation.

(2) Separate accommodation shall be provided for:

- (a) raw milk reception, bulk milk storage and cleansing of cans and tankers as necessary;
- (b) milk processing, bottle washing and packaging of milk as necessary;
- (c) storage of stocks of bottles, materials and appliances used in connection with the business of milk handling; and
- (d) storage of non-returnable packaging materials.

(3) The premises shall be of adequate dimensions as, having regard to the type and capacity of equipment provided therein and the quantity of milk handled, to enable the licence holder to handle milk in accordance with these Regulations.

(4) Premises shall be provided with clean and serviceable cloakroom and lavatory accommodation.

(5) Premises together with the approaches and surroundings thereto shall be kept clean.

*Cooling of raw milk*

22. The holder of a distributor's licence shall maintain raw milk at a temperature not exceeding 7°C until the treatment of the milk commences but this Regulation shall not apply to milk the treatment of which commences on the same day as it is received at the licence holder's premises.

*Method of pasteurisation*

23.—(1) Milk shall be pasteurised by being retained at a temperature of not less than 71.75°C and not more than 80°C for at least 15 seconds, and then being cooled immediately to a temperature not exceeding 5°C.

(2) The temperature to which milk is treated shall be automatically controlled.

(3) Any appliance in which milk is to be pasteurised shall be provided with a device which is capable of automatically diverting the flow of any milk which is not retained at a temperature of at least 71.75°C and with a device which shall automatically record when the flow of milk is being diverted and when the automatic flow diversion is not in operation.

(4) Such indicating and recording thermometers shall be installed in suitable places in the appliance in which milk is pasteurised as will indicate and record the temperature at which the milk is retained and to which it is cooled; and the said thermometers shall be marked in graduations not greater than 1°C or 2°F adequately spaced to give clear readings, and such records shall be correctly dated and shall be retained for a period of not less than 2 months.

(5) Milk shall not be sold as pasteurised milk if it has been subjected to a second heat treatment process.

*Methods of ultra-heat treatment*

- 24.—(1) (a) Milk shall be ultra-heat treated by clarifying and homogenising, if necessary, and retaining the milk at a temperature of not less than 132.2°C for a period of at least one second as part of a continuous production process.
- (b) In sub-paragraph (a) milk includes milk, the butterfat content of which has been adjusted in accordance with Regulation 26 but does not include milk-based drink.
- (c) Ultra-heat treated milk-based drink shall be produced by being retained at a temperature of not less than 140°C for at least two seconds or at such other temperature for such other period as has equivalent effect in relation to the rendering of the milk-based drink free from viable micro-organisms and their spores.

(2) Any apparatus in which milk is to be heated shall be provided with a device which shall automatically divert or stop the flow of any milk which has not been heated to a temperature of at least 132.2°C or, in the case of milk-based drink, to a temperature of at least 140°C or other temperature sufficient for the purpose of paragraph (1)(c).

(3) The heat treatment may be carried out by one of the following methods:

- (a) by the direct injection of milk into steam or of steam into milk; or
- (b) by heat transfer to the milk without direct contact between the heating medium and the milk.

(4) When the direct injection method of heat treatment is being used the following requirements shall be observed—

- (a) the steam shall be produced from water which is clean, free from pollution and contains no additives other than the permitted boiler feed water treatment compounds specified in the Fourth Schedule;
- (b) the steam shall be produced in such manner as will ensure that no solid matter is carried over from the boiler and there shall be automatic and continuous control to ensure that any entrained water droplets carried over from the boiler shall be separated from the steam before it enters the milk heating appliance;
- (c) only pure steam produced in accordance with sub-paragraph (a) and (b) and the internal surfaces of the equipment shall be allowed to come into contact with the milk;
- (d) facilities shall be provided to enable samples of water to be taken directly from the boiler and samples of steam to be taken before it mixes with the milk;
- (e) an amount of water equivalent to that added to the milk in the form of steam shall be extracted from the milk by a process of evaporative cooling so that the percentage by weight of the total solids content of the milk shall be the same after treatment as before treatment;
- (f) the appliance used shall be provided with control apparatus which shall ensure compliance with the provision in sub-paragraph (e) and before the appliance is initially used or after any operational change the control apparatus shall be calibrated in relation to the particular

temperature to be used for treating the milk so as to determine the input and output temperatures; and records of the input and output temperatures and the particular temperatures used for treating milk shall be kept with such appliance;

- (g) indicating and recording thermometers marked with graduations not greater than  $1^{\circ}\text{C}$  or  $2^{\circ}\text{F}$  adequately spaced to give clear readings shall be installed in suitable places in the appliance to indicate the ultra-heat treatment temperature, the input and output temperatures and continuously record the ultra-heat treatment temperature and both the input and output temperatures or one of them and the difference between them; and all such records shall be correctly dated and retained for a period of not less than 12 months.

(5) In this Regulation the term "input temperature" means the temperature of the milk immediately before the application of steam, the term "operational change" means any change in site, layout or construction of equipment used or any change in the steam supply or in the particular temperature used for treating the milk and "output temperature" means the temperature of the vapour or of the milk at the point of leaving the evaporative cooling expansion vessel.

(6) When the indirect heat transfer method of heat treatment is being used indicating and recording thermometers shall be installed in suitable places in the appliance to indicate and record the temperature at which the milk is heated and retained; and the thermometers shall be marked with graduations not greater than  $1^{\circ}\text{C}$  or  $2^{\circ}\text{F}$  adequately spaced to give clear readings and such records shall be correctly dated and retained for a period of not less than 12 months.

### *Methods of sterilisation*

25.—(1) Milk other than milk-based drink shall be sterilised by being retained at a temperature of not less than  $100^{\circ}\text{C}$  for such period as to ensure that it will give a negative result when submitted to the turbidity test in accordance with the procedure set out in the Fifth Schedule; and heat treatment shall be carried out either:

- (a) in bottles and in such manner that on or before completion of the treatment the bottles shall be sealed with an airtight seal; or  
(b) by a continuous-flow method.

(2) Milk-based drink shall be sterilised by being retained at a temperature of not less than  $108^{\circ}\text{C}$  for not less than 45 minutes or at such other temperature for such other period as has equivalent effect in relation to rendering the milk-based drink free from viable micro-organisms and their spores.

(3) Indicating and recording thermometers marked with graduations not greater than  $1^{\circ}\text{C}$  or  $2^{\circ}\text{F}$  adequately spaced to give clear readings shall be installed in suitable places in the appliance in which milk is to be sterilised to indicate and continuously record the sterilisation temperature; and all such records shall be correctly dated and retained for a period of not less than 12 months.

(4) Any apparatus in which the milk is to be heated by a continuous-flow method shall be provided with a device which shall automatically divert the



flow of any milk not retained at a temperature at least equal to the required temperature.

*Method of adjustment of the butterfat content of milk*

26.—(1) Milk of the required butterfat percentage shall be obtained by mixing whole milk or cream with milk of a lower butterfat content; and cream or milk with lowered butterfat content shall be obtained by means of separation using a power-driven centrifugal separator.

(2) In the preparation of ultra-heat treated milk with an adjusted butterfat content the adjustment shall take place prior to ultra-heat treatment.

(3) Where milk, the butterfat content of which has been adjusted is not immediately subjected to pasteurisation, ultra-heat treatment or sterilisation it shall be cooled immediately to and maintained at a temperature not exceeding 5°C.

*Preparation of milk-based drinks*

27.—(1) The milk and other ingredients shall, if mixed to make a milk-based drink before commencement of the heat treatment of that milk-based drink, be so mixed not more than four hours before such treatment.

(2) Where any milk-based drink is not subjected to heat treatment within one hour of mixing, it shall be cooled to and retained at a temperature not exceeding 7°C.

*Cleanliness of vessels and appliances*

28.—(1) The holder of a distributor's licence shall ensure that before any vessel or appliance is used for heat treating or storing whole milk, milk, the butterfat content of which has been adjusted, or milk-based drinks it shall be cleansed in accordance with these Regulations if it had previously been used for heat treating or storing milk of a different type; but the provisions of this paragraph shall not apply to vessels or appliances used for heat treating or storing milk-based drink immediately after being used for heat treating or storing milk, other than milk-based drink, of the same type.

(2) Subject to paragraph (7) the holder of a distributor's licence shall ensure that any vessels or appliances other than a retail container used for the handling of milk shall, as soon as practicable after each day's operation has been completed, be thoroughly rinsed and washed.

(3) In addition to the requirement in paragraph (2) all equipment used for the production and packaging of ultra-heat treated milk or sterilised milk shall be thoroughly rinsed and washed if it becomes soiled while being operated.

(4) All equipment in which ultra-heat treated milk or sterilised milk is to be produced and packaged shall be sterilised immediately before the treatment of the milk is due to commence; and if the equipment becomes contaminated or is exposed to the risk of contamination while being operated it shall be re-sterilised before the process is re-commenced.

(5) Vessels or appliances in which milk is to be handled, other than equipment used for the production and packaging of ultra-heat treated milk or sterilised milk and retail containers shall, before each day's operations commence, be sterilised by one of the following methods:

- (a) by injection of steam for a continuous period of not less than 15 minutes after the resultant condensate has reached a temperature of not less than 93°C; or
- (b) by circulation of water maintained at a temperature of not less than 82°C for a continuous period of not less than 20 minutes; or
- (c) by the use of a chemical sterilising agent approved by the Minister of Agriculture, Fisheries and Food, the Secretary of State for Social Services and the Secretary of State for Wales under Regulation 27(6) of the Milk and Dairies (General) Regulations 1959.

(6) Re-usable retail milk containers shall as soon as practicable after they have been emptied or returned empty be thoroughly washed and rinsed and before being used again to contain milk which has been pasteurised, bottles shall be washed, sterilised and drained as part of a continuous mechanical process of cleansing and filling and other re-usable retail containers shall be washed and sterilised as part of a continuous mechanical process immediately prior to filling or they shall be sterilised by continuous injection of steam in an enclosed container for a continuous period of not less than 15 minutes at a temperature of not less than 98°C.

- (7) (a) Every can required by these Regulations to be cleansed shall, after cleansing, when tested in accordance with Part I of the Sixth Schedule have a total viable bacterial count not exceeding 50,000.
- (b) Every milk tanker required by these Regulations to be cleansed shall, after cleansing, when tested in accordance with Part II of the Sixth Schedule have a total viable bacterial count not exceeding 50,000 per 0.1 square metre.

### *Packaging*

29.—(1) Milk which has been pasteurised shall be put into retail containers on the premises where it has been pasteurised; and it shall be packaged into retail containers as part of a continuous mechanical process of pasteurising, filling and closing provided that this paragraph shall not be deemed to prohibit the retention for a limited period of pasteurised milk in a holding vessel, located between the pasteurising apparatus and packaging apparatus where the said pasteurising apparatus, holding vessel and packaging apparatus are linked together by enclosed connecting pipes.

(2) Milk which has been ultra-heat treated and milk which has been sterilised by a continuous-flow method shall be aseptically packaged into sterile retail containers on the premises where it has been heat-treated.

(3) Bottles shall be securely closed and sealed by means of a metal cap overlapping the lip; and other retail containers shall be capable of being hygienically filled and shall be securely closed in such a manner as will prevent contamination of the contents.

(4) Retail containers or bottle caps shall be clearly marked with—

- (a) the designation of the milk except that:
  - (i) in any designation involving the words “ultra-heat treated” these words may be replaced by the letters “UHT”; and
  - (ii) in any designation involving the words “milk-based drink” those words may be replaced by the words “milk drink”;

- (b) in the case of milk which has been pasteurised and filled into bottles the name or licence number of the licence holder responsible for pasteurising the milk; and
- (c) in the case of milk filled into retail containers other than bottles:
- (i) the name or business name and address of the licence holder responsible for heat-treating the milk; or the name or business name and address of the seller;
  - (ii) without prejudice to the requirements of Article 4 of the Weights and Measures (Milk) Order (Northern Ireland) 1980(a) an indication of the net quantity;
  - (iii) an indication of the minimum durability of the milk and any storage conditions which need to be observed if the milk is to meet this indication of minimum durability; and
  - (iv) particulars of the place of origin or provenance of the milk if failure to give such particulars might mislead a purchaser to a material degree as to the true origin or provenance of the milk.
- (5) The minimum durability of milk which has been pasteurised shall be indicated by—
- (a) the words “best before” followed by the minimum durability date, which may be expressed in terms of a day and month only; or
  - (b) the words “sell by” followed by the latest recommended date of sale of the milk, expressed in terms of a day and month only, and an indication of the period from the date of purchase for which the milk can reasonably be expected to retain its specific properties, if properly stored.
- (6) The minimum durability date or the latest recommended date of sale of pasteurised milk may appear separately from the words “best before” or “sell by” provided that these words are followed by a reference to the place where the date appears.
- (7) The minimum durability of milk which has been ultra-heat treated and milk which has been sterilised shall be indicated by—
- (a) the words “best before” followed by the minimum durability date expressed in terms of a month and year only but this date may appear separately from the words “best before” if these words are followed by a reference to the place on the container where the minimum durability date appears; or
  - (b) the words “best before end” followed by the minimum durability date, expressed in terms of a month and year only, but this date may appear separately from the words “best before end” if these words are followed by a reference to the place on the container where the minimum durability date appears.
- (8) The particulars required to be marked on retail containers in accordance with paragraph (4) shall be easy to understand and shall be marked in a conspicuous place in such a way as to be easily visible, clearly legible and indelible and such particulars shall not in any way be hidden, obscured or interrupted by other written or pictorial matter.

(9) The particulars required to be marked on retail containers other than bottles in accordance with paragraph (4)(a), (c)(ii) and (iii) shall appear in the same field of vision.

(10) The provisions of paragraphs (4), (8) and (9) shall not apply to milk intended for export outside the European Economic Community.

## PART VII

### STORAGE AND DISTRIBUTION

#### *Premises*

**30.**—(1) A holder of a distributor's licence or an untreated milk licence shall not store milk which has been packaged in retail containers in premises which do not conform to the requirements set out in Part I of the Third Schedule and the requirements of this Regulation.

(2) Premises in which milk is pasteurised shall be capable of cooling milk which has been pasteurised to 5°C and of maintaining such milk at a temperature not exceeding 5°C.

(3) Subject to Regulation 35 premises used by the holder of a distributor's licence for the purpose of storing milk but not for pasteurising milk shall be capable of cooling milk which has been pasteurised to 7°C and of maintaining such milk at a temperature not exceeding 7°C.

(4) Premises shall be of adequate dimensions as, having regard to the type and capacity of equipment provided therein and the quantity of milk handled, to enable the licence holder to handle milk in accordance with these Regulations.

(5) Premises together with the approaches and surroundings thereto shall be kept clean.

#### *Storage*

**31.**—(1) A holder of a distributor's licence shall maintain all untreated milk and milk which has been pasteurised at a temperature not exceeding 5°C while stored at premises where milk is heat treated.

(2) Subject to Regulation 35 a holder of a distributor's licence shall maintain all untreated milk and milk which has been pasteurised at a temperature not exceeding 7°C while stored at premises other than premises specified in paragraph (1).

(3) A holder of a distributor's licence shall store milk which has been ultra-heat treated or sterilised only in an area used solely for the storage of milk, milk products or other foodstuffs in sealed packages or in the accommodation provided for in Regulation 21(2)(d).

(4) The holder of a distributor's licence shall ensure that except where it is in separate sealed containers whole milk, semi-skimmed milk, skimmed milk and milk-based drink which has been heat treated in accordance with these Regulations shall be kept apart from each other and apart from all other milk.

#### *Wholesale sales of milk in retail containers*

**32.**—(1) Holders of distributor's licences shall sell milk in retail containers by wholesale only to other holders of such licences.

(2) Milk which has been pasteurised shall not be sold by shops other than by retail.

*Sale of untreated milk*

**33.**—(1) The holder of an untreated milk licence shall not sell untreated milk otherwise than to an ultimate consumer or to the holder of a distributor's licence and shall not use any shop for the sale of that milk unless it is situated on the premises where the milk is produced.

(2) Notwithstanding paragraph (1) the holder of an untreated milk licence may, with the written consent of the Department, sell untreated milk by wholesale to another holder of an untreated milk licence.

(3) The holder of a distributor's licence shall not sell untreated milk otherwise than to an ultimate consumer and shall not use any shop for the sale of that milk.

(4) Untreated milk shall only be sold in the retail containers in which it has been packaged in accordance with Regulation 19 with the bottle caps or other fastenings unbroken.

*Collection and storage of re-usable containers*

**34.**—(1) Subject to paragraph (2) re-usable containers in which milk has been delivered to a consumer shall, as soon as practicable after they have been emptied and made available by the consumer for collection, be collected and returned directly to premises where milk is heat treated or where untreated milk is produced.

(2) The containers mentioned in paragraph (1) may be stored temporarily by the holder of a distributor's licence in premises which conform to the requirements set out in Part I of the Third Schedule and such premises together with the approaches and surroundings thereto shall be kept clean.

*Exemptions for storage of milk in shops*

**35.** The provisions of Regulations 30(3) and 31(2) shall not apply to the storage of milk in shops.

PART VIII

MISCELLANEOUS AND GENERAL

*Water supplies*

**36.**—(1) A licence holder's premises shall be provided with an adequate supply of clean and potable water.

(2) A private water supply shall be adequately protected against risk of contamination.

(3) Where water is stored it shall be protected against contamination.

(4) Water which does not satisfy the requirements of paragraph (1) shall not be supplied on tap within a dairy or used in any process connected with the handling of milk in such manner as to give rise to the risk of it contaminating

the milk or the surfaces of any appliances with which milk may come in contact.

(5) A cistern supplying water to a dairy shall not be in direct communication with or discharge directly into, a sanitary convenience.

#### *Quality requirements for milk*

**37.**—(1) Milk shall be regarded as being of the required quality if samples of the milk are taken, transported and stored in accordance with the procedure set out in the Seventh Schedule and are found to comply with the standards of quality set out in paragraphs (2), (3), (4), (5), (6) and (7).

(2) Samples of milk produced for sale by the holder of an untreated milk licence shall contain not more than 50,000 bacteria per millilitre when subjected to the total viable bacterial count test in accordance with the procedure set out in the Eighth Schedule.

(3) Samples of milk produced for sale by the holder of a milk licence when submitted to a Resazurin test in accordance with the procedure set out in the Ninth Schedule shall give a disc reading not less than that specified, on at least 5 occasions in any 7 consecutive tests.

(4) Samples of milk which has been pasteurised by the holder of a distributor's licence shall when submitted to the coliform test in accordance with the procedure set out in the Tenth Schedule contain no coliform bacteria in one-tenth of a millilitre.

(5) Samples of pasteurised milk, pasteurised semi-skimmed milk and pasteurised skimmed milk which have been pasteurised by the holder of a distributor's licence shall:

(a) when submitted to the phosphatase test in accordance with the procedure set out in the Eleventh Schedule, give a reading of not more than 10 microgrammes *p*-nitrophenol per millilitre; and

(b) when submitted to the peroxidase test in accordance with the procedure set out in the Twelfth Schedule, give a positive result.

(6) Samples of milk which has been ultra-heat treated by the holder of a distributor's licence shall contain not more than 1,000 bacteria per millilitre when submitted to the total viable bacterial count test in accordance with the procedure set out in the Eighth Schedule.

(7) Samples of milk which has been sterilised by the holder of a distributor's licence shall contain not more than 1,000 bacteria per millilitre when submitted to the total viable bacterial count test in accordance with the procedure set out in the Eighth Schedule and except in the case of sterilised milk-based drinks shall give a negative result when submitted to the turbidity test in accordance with the procedure set out in the Fifth Schedule.

#### *Protection of milk*

**38.**—(1) All practicable precautions shall be taken to prevent milk from being unnecessarily exposed to heat and sunlight and from being contaminated by dirt, dust, rainwater or other contaminants.

(2) Retail containers containing milk shall not, except upon final delivery, be left anywhere other than on premises under the control of the holder of a distributor's licence or an untreated milk licence.

*Opening of vessels during transport*

39. A person shall not open a can or any other vessel containing milk in the course of transport but this provision shall not apply to:

- (a) the transfer of milk from a bulk milk storage tank to a milk tanker;
- (b) the transfer of milk from a milk tanker to another milk tanker; and
- (c) the opening of a milk tank or other vessel for the purpose of taking a sample for testing by the owner of the milk or an authorised agent of the owner.

*Cleanliness of vehicles*

40.—(1) Every vehicle used for conveyance of milk or vessels shall be kept clean; and such vehicles shall not be used for the conveyance of any material likely to contaminate milk or vessels.

(2) In paragraph (1) “vessels” means vessels used for containing or handling milk.

*Cleanliness of vessels*

41. Every opening in a vessel or other container other than a bottle in which milk is transported shall be so constructed and closed as to prevent the access to the milk of dirt, dust, rainwater or other contaminants or the return to the interior of the container of any milk which may have been splashed on the outer surface.

*Records*

42. The holder of an untreated milk licence or a distributor’s licence shall—

- (a) keep accurate records of the quantities of milk produced, purchased and sold by wholesale as the case may be, and of the names and addresses of the persons from whom the milk was purchased and to whom it was sold; and
- (b) retain such records for a period of 12 months from the date of production or the date of the transaction to which the record relates.

*Cleanliness of persons*

43.—(1) A licence holder shall ensure that every person while engaged in the handling, transport or distribution of milk shall—

- (a) keep his person and outer clothing clean;
- (b) keep any open cut or abrasion or sore on any exposed part of his person covered with a suitable waterproof dressing;
- (c) refrain from spitting;
- (d) refrain from the use of tobacco (including snuff); and
- (e) wear a head covering and a clean washable overall which shall not be used otherwise than in connection with the handling of milk.

(2) A licence holder who is required to have premises shall provide for the use of persons to whom paragraph (1) applies—

- (a) in a convenient part of his premises, suitable and sufficient bandages, dressings (including waterproof dressings) and antiseptic for first-aid treatment; and
- (b) in a readily accessible position, facilities to wash and clean their hands and forearms including an adequate supply of soap or other suitable detergent, nail brushes and clean towels or other suitable drying facilities and hot and cold water.

(3) The facilities mentioned in paragraph (2)(b) shall be provided adjacent to every toilet and in every part of the dairy where milk is handled except a cold store.

### *Vessels and appliances*

44.—(1) A vessel or appliance used for containing or handling milk shall not be used for any purpose other than for containing or handling milk, milk products or fruit juices.

(2) A licence holder shall ensure that the surfaces of any vessel or appliance with which milk is or is liable to be in contact shall be so constructed, finished and maintained as to enable them to be readily cleansed in a manner prescribed by these Regulations; and the said surfaces shall be accessible for visual examination, free from rust or other corrosion, and be of such a character that they will not have any injurious effect on the milk.

(3) Any opening in a vessel used by the holder of a distributor's licence for the storage of milk shall be so constructed and so covered as to prevent the entry of any milk or any other matter which may have been deposited on the outer surfaces of the vessel but this provision shall not apply to open tanks used for receiving milk delivered in cans.

(4) All fixed appliances shall be so constructed and installed as not to create dead-ends or pockets from which milk or cleansing fluid cannot readily be removed and as to secure the protection of—

- (a) any surface thereof with which milk is or is liable to be in contact; and
- (b) the milk;

from contamination by dust or other potential contaminants.

(5) A licence holder shall ensure that every vessel or appliance shall immediately before use be in a state of thorough cleanliness, and if he has any reason to believe that since last being used any such vessel or appliance has not been cleansed in accordance with these Regulations or has, subsequent to such cleansing been contaminated, shall cause the vessel or appliance to be cleansed or re-cleansed as the case may be, and if he is unable to cleanse or re-cleanse the vessel or appliance he shall not use it.

(6) All reasonable precautions shall be taken to protect a vessel or appliance from contamination.

(7) A vessel or appliance which is not a fixture in another part of the licence holder's premises and is susceptible to contamination shall, after cleansing, be stored in the dairy.

(8) Strainer pads or filter media, cartons and bottle caps or foil shall be kept in a clean dry place and shall be stored and handled in such a manner as will protect them from contamination.



REVOCATION

45. The Milk Regulations (Northern Ireland) 1981(a), the Milk (Amendment) Regulations (Northern Ireland) 1983(b) and the Milk (Amendment) Regulations (Northern Ireland) 1985(c) are hereby revoked.

Sealed with the Official Seal of the Department of Agriculture on 21st May 1987.

(L.S.)

*S. R. Armstrong*

Assistant Secretary

The Department of Health and Social Services hereby concurs with the foregoing Regulations insofar as they relate to any process of direct heat treatment by steam.

Sealed with the Official Seal of the Department of Health and Social Services on 21st May 1987.

(L.S.)

*A. S. Treacy*

Assistant Secretary

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(a) S.R. 1981 No. 234  
(b) S.R. 1983 No. 337  
(c) S.R. 1985 No. 316

**Ingredients permitted in milk-based drinks**

The following are the ingredients which are permitted in milk-based drinks:

- (a) any substance, suitable for use as food and commonly used as food, which is wholly a natural product, whether or not that substance has been subjected to any process or treatment;
- (b) flavouring;
- (c) any permitted solvent defined in the Solvents in Food Regulations (Northern Ireland) 1967(a);
- (d) any permitted colouring matter as defined in the Colouring Matter in Food Regulations (Northern Ireland) 1973(b);
- (e) any permitted emulsifier as defined in the Emulsifiers and Stabilisers in Food Regulations (Northern Ireland) 1981(c);
- (f) any permitted stabiliser as defined in the Emulsifiers and Stabilisers in Food Regulations (Northern Ireland) 1981;
- (g) any permitted miscellaneous additive as defined in the Miscellaneous Additives in Food Regulations (Northern Ireland) 1981(d);
- (h) any permitted sweetener as defined in the Sweeteners in Food Regulations (Northern Ireland) 1983(e);
- (i) starch (whether modified or not);
- (j) salt;
- (k) any vitamin preparation;
- (l) any mineral preparation;
- (m) water fit for human consumption and used in combination with any of the other ingredients listed in this Schedule.

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- (a) S.R. & O. (N.I.) 1967 No. 282. The relevant amending regulations are S.R. 1981 No. 192
  - (b) S.R. & O. (N.I.) 1973 No. 466. The relevant amending regulations are S.R. 1975 No. 283, S.R. 1976 No. 382 and S.R. 1979 No. 49
  - (c) S.R. 1981 No. 194. The relevant amending regulations are S.R. 1982 No. 257 and S.R. 1984 No. 22
  - (d) S.R. 1981 No. 193. The relevant amending regulations are S.R. 1982 No. 258, S.R. 1983 No. 265 and S.R. 1984 No. 406
  - (e) S.R. 1983 No. 265. The relevant amending regulations are S.R. 1985 No. 163

**Licences**

DEPARTMENT OF AGRICULTURE FOR NORTHERN IRELAND

Milk (Northern Ireland) Order 1983

**Milk Licence**

The Department of Agriculture for Northern Ireland hereby licenses the person(s) named below to sell milk, the produce of his/her/their own cow(s). The authority hereby granted relates only to production from the premises situated at:

.....  
.....

This licence is not transferable and is subject to the conditions prescribed in any regulations made and to any directions issued or given by the Department in writing under the above Order, and unless previously revoked or suspended by the Department or surrendered by the licence holder, shall remain in force until the 31st day of October 19 .

Dated .....

Authorised by the  
Department of Agriculture

DEPARTMENT OF AGRICULTURE FOR NORTHERN IRELAND

Milk (Northern Ireland) Order 1983

**Untreated Milk Licence**

The Department of Agriculture for Northern Ireland hereby licenses the person(s) named below to sell untreated farm packaged milk and cream, the produce of his/her/their own cow(s) and to sell in bulk surplus milk. The authority hereby granted relates only to production from premises situated at:

.....  
.....

This licence is not transferable and is subject to the conditions prescribed in any regulations made and to any directions issued or given by the Department in writing under the above Order, and unless previously revoked or suspended by the Department or surrendered by the licence holder, shall remain in force until the 31st day of October 19 .

Dated .....

Authorised by the  
Department of Agriculture

DEPARTMENT OF AGRICULTURE FOR NORTHERN IRELAND

Milk (Northern Ireland) Order 1983

**Distributor's Licence**

The Department of Agriculture for Northern Ireland hereby licenses the person(s) named below to purchase and re-sell milk, the only premises to be used in connection with the purchase and re-sale of the said milk being situated at:

.....  
.....

This licence is not transferable and is subject to the conditions prescribed in any regulations made and to any directions issued or given by the Department in writing under the above Order, and unless previously revoked or suspended by the Department or surrendered by the licence holder, shall remain in force until the 31st day of October 19 .

Dated .....

.....  
Authorised by the  
Department of Agriculture

## THIRD SCHEDULE

Regulations 9, 21,  
30 and 34**Premises**

## PART I

**Dairy***Siting*

1. The dairy shall be so sited as to avoid as far as practicable the risk of contamination of milk from outside sources. The dairy shall not communicate by door, window or otherwise with:

- (a) a sanitary convenience, boilerhouse or fuel store or any store used for the storage or handling of any commodity or apparatus which gives off fumes or odours liable to be absorbed by milk or from which any dust may arise;
- (b) any room used as a kitchen, living-room or bedroom or which is occupied by a person suffering from an infectious or contagious disease;
- (c) any room, shed or building in which are kept poultry or animals which are not part of the dairy herd.

A cess-pool, manure heap, ash heap or other obnoxious accumulation shall not be kept so close to a dairy as to cause any risk of contamination and shall not in any event be kept closer than 10 metres from the nearest part of the dairy.

*Construction*

2. A dairy shall be constructed and maintained as follows:

- (a) openings to the outside atmosphere other than doorways in constant use shall be effectively screened to prevent as far as practicable the entrance or harbouring of insects, birds or vermin;
- (b) the floor shall have a smooth and impervious surface so that it is practicable to remove any liquid matter which may fall thereon and shall be so sloped as to convey such liquid matter to a suitably placed drain, channel or outfall;
- (c) drains and channels shall provide for an unobstructed flow of effluent and shall be capable of being readily cleaned;
- (d) gully traps shall provide for an unobstructed flow of effluent, shall be well ventilated and shall be located outside the dairy unless it is not reasonably practicable to drain the dairy floor without an internal gully trap in which case the gully trap shall be ventilated to the outside atmosphere;
- (e) the walls shall be smooth and impervious so that it is practicable to remove any matter which may be deposited thereon;
- (f) the ceiling or interior surface of the roof shall be so constructed as to ensure that it does not harbour dirt and dust and shall be insulated where there is a risk of condensation.

*Materials*

3. The dairy shall be constructed of durable and weather-proof materials and having such other characteristics as will, having regard to the arrangements for ventilation, enable an equable temperature to be maintained within the building and not cause undue condensation on the internal walls.

*Ventilation*

4. Ventilation arrangements shall be provided in such a way as to ensure that the air in the dairy is kept in a fresh condition, and to prevent undue condensation or accumulation of steam or vapours.

*Lighting*

5. A dairy shall be provided with such windows or other means of lighting as will enable any process connected with milk to be carried out in good light. All lighting appliances or fixtures whether of a permanent or temporary nature shall be adequately protected so as to prevent contamination of the milk in the event of the breakage of such lighting appliances or fixtures.

*Approaches and surroundings*

6. Immediate approaches to and immediate surroundings of the dairy shall be finished in a smooth durable and impervious material capable of being easily cleaned and shall be so sloped as to convey any liquid matter to suitable outfalls to the draining system.

## PART II

**Byre***Siting*

7. The byre shall be so sited as to avoid as far as practicable the risk of contamination of the milk from outside sources.

*Construction*

8. The byre shall be constructed of durable and weather-proof material. The internal dimensions of the byre shall be such as are necessary for the maintenance of the health and welfare of the animals.

*Ventilation*

9. The byre shall be provided with arrangements for ventilation suitably placed and so used as will secure a continuous and gradual change of air and will enable an equable temperature to be maintained in the building and which shall prevent undue condensation on the interior surfaces of the walls, roof or ceiling.

*Lighting*

10. The byre shall be provided with windows or other means of natural lighting. The lighting shall enable the process of milking or any other process connected with the production of milk or with the care of the animals to be conducted in good light.

*Floors and interior arrangements*

11. The floor of the byre shall be made of a durable and impervious material which can be easily cleaned. The interior of the byre shall be arranged as to provide:

- (a) stalls for all the animals in the dairy herd;
- (b) a manure channel or channels; and
- (c) a milking passage.

*Stalls*

12. Stalls may be either single stalls or double stalls, and the floor area devoted to each such stall shall provide adequately for the comfort, security and cleanliness of the animals and permit free movement by any person engaged in milking or other duties without danger of himself or his clothing or any milk carried by him being contaminated.

13. The divisions between the stalls shall be made of tubular metal or of other smooth and impervious material.

*Manure channel*

14. A manure channel shall be provided at the back of the stalls and so situated that all the droppings from the animals when secured in their normal positions in the stalls will fall into such channel. The floor of the byre shall be sloped on either side of the manure channel so as to ensure that all liquid matter falling thereon will flow into the manure channel. The channel shall be of such width and depth and so sloped as to ensure that all liquid matter is allowed free drainage to a place outside the byre for disposal.

*Milking passage*

15. The milking passage shall be of such width that any person or persons engaged in any of the duties relating to milk production can pass freely along it without danger of themselves or their clothing or any milk carried by them being contaminated.

*Walls*

16. The walls of the byre shall be so finished inside as to permit of their being readily cleaned.

*Roof*

17. The interior surface of the roof or ceiling shall be so constructed as to ensure that it is practicable to remove dirt and dust easily from it.

*Disposal of waste matter and manure*

18. The arrangements for the disposal outside the byre of manure or other matter shall be such that a producer can comply with the provisions of Regulation 10(8) and (9).

## PART III

**Milking Parlour***Application*

19. The provisions of the following paragraphs of Part II of this Schedule shall apply in relation to a milking parlour, subject to the substitution of "milking parlour" for "byre":

Paragraph 7 (Siting)

Paragraph 8 (Construction)

Paragraph 9 (Ventilation)

Paragraphs 16 and 17 (Internal Finishes).

*Lighting*

20. The milking parlour shall be provided with windows or other means of lighting as will enable the process of milking or any other process connected with the production of milk or with the care of the animals to be conducted in good light.

*Floors and interior arrangements*

21. The floor of the milking parlour shall be made of a durable and impervious material which can be easily cleaned. The interior of the milking parlour shall be arranged so as to provide:

- (a) stalls for individual cows or groups of cows which shall be so constructed as will provide adequately for the comfort and cleanliness of the cows and shall be so placed as to facilitate the entry and exit of the cows; and
- (b) a floor space adjacent to the stalls which shall be of such width that a person milking or otherwise attending such cows may do so freely and without risk of contamination to himself or his clothing or to any milk produced.

*Drainage and disposal of waste*

22. Floors shall be so sloped and provided with such means of drainage as shall ensure that all liquid matter falling thereon is allowed free drainage to a suitably placed outfall. Drains, channels and gully traps shall be so constructed as to provide an unobstructed flow of effluent from the milking parlour. Gully traps shall be well ventilated and shall be located outside the milking parlour unless it is not reasonably practicable to drain the milking parlour floor without an internal gully trap in which case the gully trap shall be ventilated to the outside atmosphere.

*Approaches*

23. The immediate approaches, including the areas for collection and dispersal of cows, shall be constructed of concrete or of other smooth and impervious material which can be easily kept clean.

## PART IV

**Milking Bail**

24. A milking bail shall:

- (a) provide adequate shelter and protection for persons, cows and milk during the whole period in which the milking bail is in use; and
- (b) be so constructed and finished as to permit the interior surfaces to be kept clean.

## PART V

**Building or Yard***Application*

25. This Part shall apply to any buildings or yards which form part of the prescribed premises in accordance with Regulation 9(4).

*Size*

26. The size of any building or yard shall provide adequately for the comfort, health and cleanliness of the cows kept therein.

*Structure*

27. Buildings or yards shall be constructed of durable weather-proof material and any covered part thereof shall be so ventilated as to maintain the air within in a fresh condition. Internal surfaces, including floors, liable to soiling by cows shall be of durable and impervious material capable of being readily cleaned.

*Natural light*

28. Buildings or yards shall be constructed in such a way that sufficient natural light is made available to enable the buildings or yards to be maintained in accordance with Regulation 10(7).

*Drainage and levels*

29. The floor of any building or yard shall be so constructed as to permit of the free drainage of all liquid matter falling thereon to a point or place for disposal.



**Permitted Boiler Feed Water Treatment Compounds**

The following are the boiler feed water treatment compounds which steam, used for the ultra-heat treatment of milk, shall be permitted to contain:

- Potassium alginate
- Sodium alginate
- Potassium carbonate
- Sodium carbonate
- Sodium hydroxide
- Sodium dihydrogen orthophosphate
- di*Sodium hydrogen orthophosphate
- tri*Sodium orthophosphate
- penta*Sodium triphosphate
- Sodium polyphosphate
- tetra*Sodium diphosphate
- Sodium silicate
- Sodium metasilicate
- Sodium sulphate
- Magnesium sulphate
- Neutral or alkaline sodium sulphite
- Unmodified starch
- Sodium aluminate
- Polyoxyethylene glycol (minimum molecular weight 1,000).

**The Turbidity Test***Apparatus*

1. The apparatus shall consist of:
  - (a) conical flasks of 50 ml capacity;
  - (b) graduated cylinders of 25 ml capacity;
  - (c) test tubes conforming to British Standard 3218: 1982(a) nominal size 150/16;
  - (d) filter funnels of a 6 cm diameter;
  - (e) beakers of 400 ml capacity;
  - (f) 12.5 cm No. 2V Whatman folded filter papers or equivalent.

*Reagent*

2. Ammonium sulphate of analytical reagent quality shall be used.

*Method of carrying out the test*

- 3.—(1) The sample shall be at room temperature when the test is begun.

(2)  $4 \pm 0.1$  g of ammonium sulphate shall be weighed into a 50 ml conical flask.  $20 \pm 0.5$  ml of the milk sample shall be measured out and poured into the conical flask. The flask shall be shaken for one minute to ensure that the ammonium sulphate has dissolved. The mixture shall be left for not less than 5 minutes and then filtered through a folded filter paper into a test tube. When not less than 5 ml of a clear filtrate have collected, the tube shall be placed in a beaker of water, which has been kept boiling, and kept therein for 5 minutes. The tube shall be transferred to a beaker of cold water, and when the tube is cool, the contents shall be examined for turbidity by moving the tube in front of an electric light shaded from the eyes of the observer.

*Interpretation*

4. The test shall be deemed to give a negative result when the milk sample treated as in paragraph 3 gives a filtrate showing no sign of turbidity.

**The Testing of Cans and Tankers**

## PART I

## TESTS FOR CANS

*Taking of samples*

1.—(1) The can selected for the test shall be in a good state of repair, free from crevices, broken seams or welds and milk deposits.

(2) Cans shall be tested by a rinsing technique. The rinse sample shall be taken, in accordance with sub-paragraph (3), on the premises where the can has been cleansed and within an interval of not less than half an hour and not more than one hour after cleansing.

(3) 500 ml of either a 0.9 per cent by weight aqueous sodium chloride solution or peptone/salt solution made according to the formula set out in paragraph 4 of the Eighth Schedule shall be poured over the inside of the lid into the can. The lid shall be replaced. The can shall be placed on its side and rolled until 12 revolutions have been completed. A sample of the solution shall then be transferred from the can to a sample bottle either by pouring or by means of a dipper.

(4) The sampling apparatus and solutions shall be sterile.

*Transport and holding of samples*

2.—(1) Samples shall be transported to the testing laboratory with the least possible delay. Unless the sample is to be delivered to the testing laboratory within 2 hours of the time of sampling, the sample shall be placed in an insulated box containing an adequate quantity of a suitable refrigerant capable of cooling the sample to a temperature of 5°C and maintaining it at a temperature not exceeding 5°C until delivery at the laboratory.

(2) On arrival at the laboratory, the sample shall be removed from the carrying box, and, if the test is not then immediately begun, the sample shall be maintained at a temperature of not less than 2°C and not more than 5°C pending testing. Testing shall commence not later than the morning after the day of arrival of the sample at the testing laboratory.

*Identification of samples*

3.—(1) For the purpose of the identification of the rinse sample, the person taking it shall mark or label the bottle with a number or other suitable identification mark.

(2) The following particulars shall accompany the sample to the testing laboratory:

- (a) the identification number or mark of the rinse sample;
- (b) the identification mark, if any, of the can from which the sample was taken;
- (c) the name and address and licence number of the premises on which the can was cleansed;
- (d) the date and time of cleansing;
- (e) the date and time of sampling; and
- (f) the signature of the person taking the sample.

*Total viable bacterial count*

4.—(1) The rinse solution shall be tested for total viable bacterial count per millilitre as described in the Eighth Schedule substituting “can rinse sample” for “milk sample”.

(2) The total viable bacterial count of the can shall be ascertained by multiplying the colony count per millilitre of rinse solution by 500.

## PART II

### TESTS FOR TANKERS

#### *Taking of samples*

- 5.—(1) Tankers may be tested at any time after the tanker has been cleansed and:
- where the tanker belongs to the licence holder who cleansed it, before it has been refilled; and
  - in any other case, before it has left the premises where it has been cleansed.
- (2) Tankers shall be tested by a swab technique.
- (3) The sampling apparatus and solutions shall be sterile.

#### *Apparatus and swab solution*

6.—(1) The apparatus shall consist of:

- a screw-cap bottle, 28 ml nominal capacity, with wide mouth and containing 20 ml swab solution;
- a wooden stick approximately 140mm × 10mm × 1.5mm;
- a swab consisting of a 15 cm length of unmedicated ribbon gauze 3.75 cm wide wound round one end of the stick and secured by means of thread or staple and wrapped in grease-proof paper.

(2) The swab solution shall be either 0.9 per cent by weight aqueous sodium chloride solution or peptone/salt solution made according to the formula set out in paragraph 4 of the Eighth Schedule, subject to the following amendments:

- when an approved chlorine or iodine compound has been used for sterilising the tanker the swab solution shall contain 0.05 per cent by weight of sodium thiosulphate;
- when an approved detergent sterilising agent containing a quarternary ammonium compound has been used for cleansing the tanker the swab solution shall contain a suitable inactivating agent.

#### *Method of swabbing*

7. An area of not more than 0.1 square metre of any part of the interior surface of the tanker shall be swabbed by rubbing the gauze saturated with the sterile swab solution completely over it, the swab being rotated while it is being rubbed over the surface. The area to be examined shall be treated twice by the swab. The swab shall then be returned to the swab solution and the stick broken below the finger grip. The bottle shall then be stoppered.

#### *Identification of samples*

8.—(1) For the purpose of the identification of the swab sample the person taking it shall mark or label the bottle with a number or other suitable identification mark.

(2) The following particulars shall accompany the sample to the testing laboratory:

- the identification number or mark of the swab solution;
- the name and address of the owner of the tanker and the registration number of the vehicle;
- the name and address and licence number of the premises on which the tanker was cleansed;

- (d) the name of any chemical sterilising agent used;
- (e) the date and time of cleansing if known;
- (f) the place, date and time of sampling; and
- (g) the signature of the person taking the sample.

*Transport and holding of samples*

9. Samples shall be transported and held as prescribed in Part I of this Schedule.

*Total viable bacterial count*

10.—(1) The swab solution shall be tested for total viable bacterial count per millilitre as described in the Eighth Schedule substituting “swab solution” for “milk sample”.

(2) The total viable bacterial count per 0.1 square metre shall be ascertained by multiplying the colony count per millilitre of swab solution by 20.

**The Taking, Transport and Storage of Samples of Milk for Testing***Taking of samples*

1.—(1) Samples of milk produced by the holder of an untreated milk licence may be taken at any time when the milk is in the possession of the licence holder or at any subsequent time before delivery to the consumer.

(2) Samples of milk produced by the holder of a milk licence may be taken at any time when the milk is:

- (a) in the possession of the licence holder;
- (b) in the course of delivery to any distributor or manufacturer;
- (c) in the possession of such distributor or manufacturer provided that the milk has not been mixed with any other milk.

(3) Samples of milk which has been pasteurised or ultra-heat treated or sterilised may be taken at any time after heat treatment and before delivery to the consumer.

2. When the milk is in containers not exceeding two litres in capacity, the sample shall consist of one such container which shall be delivered intact to the testing laboratory.

3. When the milk is in containers exceeding two litres in capacity a representative sample shall be taken of the milk in that container by aseptic means and transferred to a bottle or test tube, which shall be immediately stoppered, or closed with a close fitting overlapping metal cap.

4. The sampling containers and appliances shall be sterile.

*Transport and holding of samples*

5.—(1) Samples of milk except milk which has been ultra-heat treated or sterilised shall be transported to the testing laboratory with the least possible delay.

(2) Samples of milk which has been ultra-heat treated or sterilised shall be transported promptly to the testing laboratory.

(3) (a) Samples of milk produced by the holder of a milk licence shall with the least possible delay be placed in an insulated box containing an adequate quantity of suitable refrigerant capable of cooling the samples to a temperature of 5°C and maintaining them at a temperature of not more than 5°C until arrival at the testing laboratory.

(b) During the period 1st April to 31st October samples of untreated milk and milk which has been pasteurised, unless they are to be delivered to the testing laboratory within 2 hours of the time of sampling, shall with the least possible delay be placed in an insulated box containing an adequate quantity of suitable refrigerant capable of cooling the samples to a temperature of 5°C and maintaining them at a temperature of not more than 5°C until arrival at the testing laboratory.

(c) During the period 1st November to 31st March samples of untreated milk and milk which has been pasteurised, unless they are to be delivered to the testing laboratory within 8 hours of the time of sampling, shall with the least possible delay be placed in an insulated box containing an adequate quantity of suitable refrigerant capable of cooling the samples to a temperature of 5°C and maintaining them at a temperature of not more than 5°C until arrival at the testing laboratory.

(4) Samples of milk shall, on arrival at the testing laboratory, be removed from the carrying box and, if stored, shall be placed in a refrigerator capable of maintaining them at a temperature of not more than 5°C.

*Identification of samples*

6. For the purposes of the identification of the sample, the person taking it shall mark or label the container with a number or other suitable identification mark. The following particulars shall accompany the sample to the testing laboratory:

- (a) the identification number or mark of the milk sample;
- (b) the name and address and licence number of the licence holder by whom the milk was produced or heat treated;
- (c) the day of production, if known, or in the case of heat treated milk, the day of heat treatment;
- (d) the name and address of the licence holder by whom the milk was consigned or by whom it was being delivered, or on whose premises the sample was taken;
- (e) the place, date and time of sampling;
- (f) the signature of the sampling officer.

*Pre-incubation of samples of milk which has been ultra-heat treated or sterilised*

7. Samples of milk which has been ultra-heat treated or sterilised shall be placed in an incubator at a temperature of  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  and retained at that temperature for 24 hours. If testing does not commence immediately the sample shall be placed in a refrigerator and held at a temperature of not more than  $5^{\circ}\text{C}$  until testing commences.

**Total Viable Bacterial Count Test***Apparatus*

1. The apparatus shall consist of:
  - (a) dilution tubes or flasks and pipettes conforming to the standards specified for the coliform test; and
  - (b) Petri dishes, complying with British Standard 611: Part 1 1978, Part 2: 1982(a).
2. The diluent, medium and all glassware and metal caps shall be sterile.

*Medium*

3. The culture medium shall be prepared in accordance with the following formula and shall have a final pH of  $6.9 \pm 0.1$ :

Tryptone	5.0 g
Yeast extract	2.5 g
D-glucose, anhydrous	1.0 g
Skimmed milk powder	1.0 g
Agar	10-15 g
depending on the Agar	
Water	1000 ml

*Diluent*

4. The diluent shall be peptone/salt solution made according to the following formula:

Peptone	1.0 g
Sodium Chloride	8.5 g
Water	1000 ml

*Method of carrying out the test*

- 5.—(1) A 1 in 10 dilution of the milk sample shall be prepared as follows:

The milk sample shall be thoroughly mixed. A 1 ml pipette shall be introduced into the sample container and 1 ml of the milk withdrawn and then be introduced into the dilution tube or flask. After the addition of the milk the contents of the dilution tube or flask shall be thoroughly mixed.

(2) A 1 in 100 dilution and a 1 in 1,000 dilution shall be prepared in a similar manner, except that in the preparation of the 1 in 100 dilution, 1 ml of the 1 in 10 dilution shall be added to the dilution tube or flask, and for the 1 in 1,000 dilution, 1 ml of the 1 in 100 dilution shall be added to the dilution tube instead of 1 ml of the milk sample. A fresh pipette shall be used for the preparation of each dilution.

6. 1 ml of the 1 in 10 dilution shall be measured with a pipette held in a vertical position. The tip of the pipette shall be touched against the side of the dilution flask. The contents of the pipette shall be blown out gently into the centre of a Petri dish, the tip of the pipette being held about 15 mm above the level of the bottom of the dish. Three seconds shall be allowed to elapse, the tip of the pipette shall then be touched against the dish at a point some distance from the fluid already delivered, and the last



drop blown out. A fresh pipette shall be taken and 1 ml of the 1 in 100 dilution shall be transferred to another Petri dish in a manner similar to that described for the transfer of the 1 in 10 dilution. A fresh pipette shall be taken and 1 ml of the 1 in 1,000 dilution shall be transferred to another Petri dish in a manner similar to that described for the transfer of the 1 in 10 dilution.

7. Where a sample of milk which has been ultra-heat treated is being tested, a 1 in 10 dilution shall be prepared as prescribed in paragraph 5(1). 1 ml of the 1 in 10 dilution shall be measured with a pipette held in the vertical position. The tip of the pipette shall be touched against the side of the dilution flask. The contents of the pipette shall be blown out gently into the centre of a Petri dish, the tip of the pipette being held about 15 mm above the level of the bottom of the dish. Three seconds shall be allowed to elapse, the tip of the pipette shall then be touched against the dish at a point some distance from the fluid already delivered and the last drop blown out.

8. 10-12 ml of the sterile culture medium which shall have been melted and cooled to about 45°C shall be delivered under aseptic conditions into each of the Petri dishes and immediately thereafter the contents of the dishes shall be mixed by means of a series of circular movements in a clockwise and anti-clockwise direction. The mixing procedure shall last from 5-10 seconds, the Petri dish being kept flat on the bench throughout the whole process. The time which shall elapse between the preparation of the dilution and the addition of such dilution and culture medium to the Petri dishes shall not exceed 15 minutes. The plates shall be incubated bottom-upwards at 30°C  $\pm$  1°C for 72 hours.

#### *Counting of bacteria*

9. Colonies on the dish shall be counted within 4 hours of removal from the incubator. Colony counting equipment consisting of an illuminated base with a dark background fitted with a magnifying lens to be used at a magnification of 1.5 diameters and a mechanical or electronic digital counter shall be used.

#### *Interpretation*

10. The bacterial count per millilitre of the sample shall be ascertained by multiplying the total colony count per Petri dish by the reciprocal of the dilution used in the test.

**The Resazurin Test***Apparatus*

1. The apparatus shall consist of:

- (a) test tubes which shall comply with British Standard 3218: 1982 nominal size 150/16(a) and which shall be accurately marked at 10 ml. They shall be plugged with non-absorbent cotton-wool or covered with closely fitting metal caps or stoppered in such other way as will prevent contamination;
- (b) pipettes which shall be 1.0 ml straight-sided blow-out delivery pipettes, and which shall be plugged with cotton-wool at the upper end;
- (c) a 100 ml screw-capped bottle;
- (d) a water bath maintained at  $37.5^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$  by a reliable automatic thermostat;
- (e) a water bath maintained at  $20^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$  by a reliable automatic thermostat;
- (f) a "Lovibond 1,000 comparator" and milk viewing stand with a "Lovibond comparator disc, 4/9".

2. The glass distilled water, glassware, stoppers and metal caps shall be sterile.

*Reagent*

3. A 0.005% weight/volume Resazurin solution shall be prepared by adding aseptically one Resazurin tablet to 50 ml of cold glass distilled water in a 100 ml screw-capped bottle and by shaking until the tablet is completely dissolved.

4. The solution shall be stored in a cool dark place, and shall be protected from contamination and exposure to direct sunlight. It shall not be used if more than 4 hours have elapsed from the time of preparation.

*Method of carrying out the test*

5. The test shall commence not later than the day following the day of sampling and shall be carried out in the following manner:

- (1) 10 ml of the sample taken from a storage tank shall be pre-incubated in a water bath for 17 hours at  $20^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .
- (2) Following treatment as prescribed in sub-paragraph (1), 1 ml of Resazurin solution shall be added by means of a pipette, without allowing the pipette to come into contact with the milk in a test tube. The test shall be closed aseptically with a suitable stopper and inverted twice so that the whole column of contained air rises above the level of the milk.
- (3) Within 5 minutes of the addition of the Resazurin solution the test tube shall be placed in a water bath and the contents incubated at  $37.5^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$  for 30 minutes. The interior of the water bath shall be kept completely dark except for the minimum amount of time necessary to inspect and handle the test tube.

6. The test tube containing the milk, after treatment as prescribed in paragraph 5, shall within 5 minutes of its removal from the water bath be examined using the "Lovibond 1,000 comparator". A test tube containing milk of similar colour to that of the sample before the addition of the Resazurin solution shall be placed in the left-hand section of the comparator and the test tube containing the milk being tested

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(a) See BSI Catalogue 1986 published in 1985 by the British Standards Institution, London ISBN 0 580 14963 3

shall be placed in the right-hand section. The examination shall be made in daylight, or artificial light of comparable quality. Direct sunlight shall not be allowed to fall on the comparator or tubes during the examination.

7. The reading shall be recorded as the number of the disc which matches the colour of the milk being tested. When the colour of the milk being tested does not exactly match that of any disc, the reading recorded shall be the half value between the numbers of the discs most nearly matched by the colour of the milk which is being tested.

*Interpretation*

8. The minimum disc readings to be achieved by ex-farm milk from storage tanks under different handling conditions shall be  $4\frac{1}{2}$ .

**The Coliform Test***Apparatus*

1. The apparatus shall consist of:
  - (a) culture medium tubes which shall be test tubes complying with British Standard 3218: 1982(a) nominal size 150/16 and shall be closed with closely fitting metal caps; each tube shall contain an inverted Durham tube conforming to British Standard 3218: 1982(a);
  - (b) dilution tubes or flasks which shall be stoppered by means of a solid stopper or tightly fitting cover;
  - (c) pipettes which shall be 1.0 ml straight-sided blow-out delivery pipettes.
2. The medium, diluent and all glassware, stoppers, covers and caps shall be sterile.

*Medium*

3. The medium shall be lactose bile brilliant green broth made according to the following formula and shall have a final pH of  $7.2 \pm 0.1$ .

Peptone	10 g
Lactose	10 g
Dehydrated Ox Bile	20 g
Brilliant Green	0.0133 g
Water	1,000 ml

*Diluent*

4. The diluent shall be as specified for the total viable bacterial count test (paragraph 4 of the Eighth Schedule).

*Method of carrying out the test*

5. Each dilution tube or flask shall contain sterile diluent of a volume not less than 8.9 ml and not more than 9.1 ml.
6. In the case of milk other than milk-based drink a 1 in 10 dilution of the pasteurised milk sample shall be prepared in the manner prescribed for the total viable bacterial count test in paragraph 5(1) of the Eighth Schedule. After mixing, a fresh pipette shall be introduced into the 1 in 10 dilution and a 1 ml portion transferred to each of 3 culture tubes containing about 5 ml of lactose bile brilliant green broth. The culture tubes shall be incubated at  $30^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for 48 hours and examined for gas production.
7. In the case of milk-based drink a 1 in 10 dilution of the pasteurised milk-based drink sample shall be prepared in the manner prescribed for the total viable bacterial count test in paragraph 5(1) of the Eighth Schedule. After mixing, a fresh pipette shall be introduced into the 1 in 10 dilution and a 1 ml portion transferred to each of 3 culture tubes containing about 5 ml of lactose bile brilliant green broth. The culture tubes shall be incubated at  $30^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for 48 hours and examined for gas production. All tubes showing gas production shall be sub-cultured into fresh tubes of lactose bile brilliant green broth, re-incubated at  $30^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for 48 hours and examined again for gas production.

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(a) See BSI Catalogue 1986 published in 1985 by the British Standards Institution, London ISBN 0 580 14963 3

*Interpretation*

8. A pasteurised milk sample other than milk-based drink shall be deemed to contain no coliform bacteria in one-tenth of a millilitre if at least 2 out of 3 tubes are found to be free from gas after incubation for 48 hours.

9. A sample of pasteurised milk-based drink shall be deemed to contain no coliform bacteria in one-tenth of a millilitre (after sub-culture and re-incubation if required) if 2 out of 3 tubes are found to be free from gas after incubation for 48 hours.

**The Phosphatase Test***Apparatus*

- 1.—(1) The apparatus shall consist of:
  - (a) a water bath maintained at  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  by a reliable automatic thermostat;
  - (b) a pipette or automatic burette to deliver 10 ml or 5 ml;
  - (c) a supply of 1.0 ml straight-sided blow-out delivery pipettes;
  - (d) a supply of test tubes complying with British Standard 3218: 1982(a) with stoppers to fit;
  - (e) graduated flasks of suitable sizes;
  - (f) a "Lovibond all purposes comparator" with a disc containing standard coloured glasses corresponding to 0, 6, 10, 18, 42 microgrammes *p*-nitrophenol per millilitre of milk.
- (2) Glassware used for this test shall be thoroughly cleaned and dried, shall not be used for any other purpose and shall be kept apart from all other apparatus in the laboratory and shall be protected from dust.

*Reagents*

2. The reagents shall be of analytical reagent quality and shall consist of:
  - (a) a buffer solution prepared by dissolving 3.5 g of anhydrous sodium carbonate and 1.5 g of sodium bicarbonate in distilled water and by making the solution up to one litre with distilled water; and
  - (b) a buffer substrate solution prepared by dissolving 0.15 g disodium *p*-nitrophenyl phosphate in the buffer solution and by making the solution up to 100 ml with buffer solution. The buffer substrate solution shall be stored at  $2^{\circ}\text{C}$  to  $5^{\circ}\text{C}$  and shall not be used after 7 days from the date of preparation. The buffer substrate solution shall be checked before use in the "Lovibond all purposes comparator" with a cell of 25 mm depth, and shall give no appreciable colour.

*Method of carrying out the test*

3. All samples shall be brought to room temperature immediately before being tested.

4. 10 ml of the buffer substrate solution shall be transferred to a test tube using a pipette or an automatic burette and the test tube shall be stoppered and placed in a water bath at  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . After not less than 3 minutes 2 ml of well mixed milk shall be added from the sample, the test tube shall be closed with a rubber stopper, and the contents shall be well mixed. It shall be incubated at  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for 2 hours, then the tube shall be removed from the water bath and without delay the degree of colour shall be measured using the Lovibond comparator and disc described in paragraph 1(f). The contents of the tube shall be well mixed immediately before a reading is taken. A tube containing 10 ml of buffer substrate solution and 2 ml of boiled milk shall serve as a control. The boiled milk control shall be incubated with the test samples. The comparisons shall be made in daylight or, where artificial illumination is required, under a source of fluorescent light.

5. If desired, the quantity of buffer substrate solution may be reduced to 5.0 ml and the quantity of milk to 1.0 ml when the 5 ml and 1.0 ml pipettes described in sub-paragraphs 1(b) and (c) shall be used.

6. The following precautions shall be taken:

- (a) samples which show a taint or clot on boiling shall not be tested;
- (b) phenols, disinfectants and detergents containing phenols and soap containing carbolic acid shall be kept apart from the test reagents and apparatus;
- (c) bottle caps made from phenolic resin shall not be used;
- (d) rubber stoppers shall not be used until they have been shown by test not to contain phenolic impurities;
- (e) pipettes shall not be contaminated with saliva and a separate pipette shall be used for each sample of milk;
- (f) all reagents shall be kept in a cool, dark place and shall be well protected from dust;
- (g) tests shall not be carried out in direct sunlight;
- (h) freshly boiled glass-distilled water shall be used throughout.

**The Peroxidase Test***Apparatus*

1. The apparatus shall consist of:
  - (a) conical flasks of suitable sizes;
  - (b) a glass-stoppered bottle;
  - (c) a 1 litre graduated flask;
  - (d) graduated pipettes of suitable sizes and pipettes which shall be 1 ml straight-sided blow-out delivery pipettes;
  - (e) test tubes which shall comply with British Standard 3218: 1982(a) nominal size 150/16;
  - (f) a water bath maintained at  $33^{\circ}\text{C} \pm 1^{\circ}\text{C}$  by a reliable automatic thermostat;
  - (g) a dropping pipette, Dr. J. G. Davis pattern;
  - (h) a pH meter.

*Reagents*

2. The following reagents shall be used:
  - (a) a 0.2% aqueous solution of hydrogen peroxide preserved with the addition of 1 ml concentrated sulphuric acid per litre of solution;
  - (b) a 2% aqueous solution of paraphenylenediamine which shall not be kept for more than 24 hours after preparation;
  - (c) a buffer solution prepared by dissolving 69 g anhydrous disodiumphosphate and 1.3 g citric acid in water and by making the solution up to a volume of 1 litre;
  - (d) 0.25 N sodium hydroxide solution.

*Method of carrying out the test*

3. The milk sample shall be brought to room temperature immediately before being tested.

4. Using a pH meter the milk sample shall be adjusted to pH 7.0 by the addition of 0.25 N sodium hydroxide solution. 5 ml of the milk sample shall then be transferred to a clean test tube, 2.5 ml of the buffer solution shall be added and the mixture placed in a water bath. When the temperature of the mixture has reached  $33^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , 0.02 ml of hydrogen peroxide solution and 0.04 ml paraphenylenediamine shall be added. The contents shall then be mixed by shaking the test tube.

*Interpretation*

5. A milk sample shall be deemed to have given a positive result if the mixture in the test tube develops a blue colour within half a minute of mixing.



## EXPLANATORY NOTE

*(This note is not part of the Regulations.)*

These Regulations consolidate with amendments the Milk Regulations (Northern Ireland) 1981, the Milk (Amendment) Regulations (Northern Ireland) 1983 and the Milk (Amendment) Regulations (Northern Ireland) 1985. They control the methods of production of milk for sale and the heat treatment, packaging, storage, transport and distribution of milk for liquid consumption.

The main amendment to the former Regulations is the introduction of a new system whereby licences are renewable on a County basis at three year intervals. Licences in respect of premises in the local government district of Belfast are renewable at the same time as licences in respect of premises in Counties Down and Fermanagh (Regulation 5). Other changes include—

- (a) the deletion of the reference to clarifying and homogenising milk during sterilisation (Regulation 25);
- (b) the amalgamation of the two Parts of the former Schedule dealing with the coliform test;
- (c) a few minor amendments to the wording of the Schedules dealing with specific testing, e.g. bacterial colony count test becomes total viable bacterial count test; and
- (d) the re-arrangement of the sequence of some of the Schedules.

The 1983 Regulations, among other things, implemented so far as concerns milk, certain requirements of Council Directive No. 79/112/EEC (O.J. No. L33, 8.2.79, p. 1) on the approximation of the laws of the Member States relating to the labelling of foodstuffs for sale to the ultimate consumer. The implementing provisions are contained in Regulations 2, 19 and 29 of these Regulations.

Offences in connection with these Regulations are set out in Article 10 of the Milk (Northern Ireland) Order 1983. A person guilty of an offence under Article 10(1) is liable on summary conviction to a fine not exceeding £400. A person guilty of an offence under Article 10(2) is liable on summary conviction to imprisonment for a term not exceeding six months, or to a fine not exceeding £400, or to both.

A copy of the BSI Catalogue: 1986 is available from the Sales Department, British Standards Institution, Linford Way, Milton Keynes, London MK14 6LE or may be inspected in Northern Ireland at the Belfast Education and Library Board, Public Library Central Branch, Royal Avenue, Belfast BT1 1EA.

Copies of Council Directive No. 79/112/EEC are available through HMSO Bookshop, IDB House, 80 Chichester Street, Belfast BT1 4JY.