1983 No. 336

MILK AND DAIRIES

Marketing of Milk Products (Amendment) Regulations (Northern Ireland) 1983

Made . . . . . 26th October 1983

Coming into operation . . . 16th November 1983

The Department of Agriculture, in exercise of the powers conferred on it by Sections 5(1), 7, 10, 11 and 15(1) of the Marketing of Milk Products Act (Northern Ireland) 1958(**a**) and of every other power enabling it in that behalf, hereby makes the following regulations:

Citation and commencement

1. These regulations may be cited as the Marketing of Milk Products (Amendment) Regulations (Northern Ireland) 1983 and shall come into operation on 16th November 1983.

Amendment of the Marketing of Milk Products Regulations (Northern Ireland) 1966

2. The Marketing of Milk Products Regulations (Northern Ireland) 1966(**b**) shall be amended as follows:—

(1) **In regulation 2** after the definition of "the Ministry" there shall be inserted:—

""catering establishment" means a restaurant, canteen, club, public house, school, hospital or other establishment (including a vehicle or a fixed or mobile stall) where, in the course of a business, food is prepared for delivery to the ultimate consumer for immediate consumption;".

(2) **In regulation 11 paragraphs (2A) and (3A)** after the words "ultra-heat treated" there shall be inserted the words "and sterilised".

(3) **For Part 8 there shall be substituted:—**

"PART 8

MANUFACTURE OF PASTEURISED, ULTRA-HEAT TREATED AND STERILISED CREAM

Method of manufacture

23.—(1) Pasteurised cream shall be manufactured on registered premises and in accordance with the provisions of Part 2 of Schedule 4.

(2) Ultra-heat treated cream shall be manufactured on registered premises and in accordance with the provisions of Part 3 of Schedule 4.

(3) Sterilised cream shall be manufactured on registered premises and in accordance with the provisions of Part 4 of Schedule 4.

(**a**) 1958 c. 31 (N.I.) as amended by 1967 c. 15 (N.I.) ss. 13 and 14
(**b**) S.R. & O. (N.I.) 1966 No. 204 as amended by S.R. 1981 No. 233

Packing of cream

24.—(1) Reusable containers used for the dispatch of pasteurised cream from registered premises shall be cleansed before filling in accordance with regulation 41. Other containers used for the dispatch of pasteurised cream from registered premises shall be clean before filling.

(2) Containers used for the dispatch of pasteurised cream from registered premises shall be securely closed immediately after filling. Materials used for closing containers of pasteurised cream shall be clean.

(3) Ultra-heat treated cream shall be aseptically packed on the premises on which the ultra-heat treatment takes place in sterile containers in which it will reach consumers or catering establishments.

(4) Cream which is to be sold as sterilised cream shall be filled into clean containers and those containers shall be hermetically sealed.

(5) Each consignment of pasteurised cream, which is dispatched from registered premises in containers in which it will not reach consumers or catering establishments, shall be accompanied by a consignment note on which will be shown the following information:—

(*a*) the name and address of the premises on which the cream was manufactured;

(*b*) the date on which the cream in the consignment was manufactured;

(*c*) the date of dispatch of the consignment.

(6) Containers in which pasteurised or ultra-heat treated cream is packed for sale to consumers or catering establishments shall be clearly marked with:

(*a*) the name, or business name, and address of the licence holder responsible for packing the cream or the name, or business name, and address of the seller;

(*b*) the word "pasteurised" where the cream has been subjected to the process set out in Part 2 of Schedule 4, or the words "ultra-heat treated" or the letters "UHT" where the cream has been subjected to the process set out in Part 3 of Schedule 4.

Standard of quality of cream for sale for human consumption as cream

25.—(1) Pasteurised cream for sale for human consumption as cream shall be regarded as being of the required quality if samples contain no coliform bacteria in one gramme of the cream where such samples are taken, transported, kept and tested in accordance with the procedure set out in Schedule 8.

(2) Ultra-heat treated cream and sterilised cream shall be regarded as being of the required quality if samples of the cream contain not more than 100 bacteria in 0.1 gramme where such samples are taken, transported, kept and tested in accordance with the procedure set out in Schedule 8.

Storage of cream

26.—(1) Whilst on registered premises pasteurised cream intended for human consumption as cream shall be maintained at a temperature not exceeding 6°C.

(2) Whilst on registered premises ultra-heat treated cream and sterilised cream shall be stored in an area used solely for the storage of milk, milk products or other foodstuffs in sealed packages or in a room provided for in regulation 7(2)(*a*).

Records

27. The owner or occupier of registered premises shall keep accurate records of:

(*a*) the quantities of cream purchased by him, of milk purchased or produced by him for cream production and of cream sold and delivered by him; and

(*b*) the names and addresses of the persons:—

(i) from whom cream was purchased by him;

(ii) from whom milk was purchased by him for cream production; and

(iii) to whom cream was sold and delivered by him otherwise than by retail;

and retain each such record for a period of 12 months from the date of the transaction to which it relates.''.

(4) **For Part 2 of Schedule 4 there shall be substituted:—**

''PART 2

2. *Method of manufacturing pasteurised cream*

Pasteurised cream shall be manufactured as follows:

(*a*)(i) Where the cream is to be pasteurised separately from the remainder of the milk of which it forms part, the cream shall be separated from the milk and shall be heated;

(*aa*) to a temperature of not less than 63°C and retained at that temperature for not less than 30 minutes;

(*ab*) to a temperature of not less than 72°C and retained at that temperature for not less than 15 seconds; or

(*ac*) to such other temperature for such other period as has equivalent pasteurising effect to (*aa*) or (*ab*); or

(ii) where the cream is to be pasteurised together with the remainder of the milk of which it forms part, the milk shall be heated in accordance with (i)(*aa*), (*ab*) or (*ac*) following which the cream shall be separated in a hygienic manner.

(*b*) The cream shall be cooled as soon as practicable thereafter to a temperature of not more than 6°C.

(*c*) The temperatures referred to in (*a*)(i) shall be automatically controlled.

(*d*) Any appliance in which milk or cream is to be heated in accordance with (*a*)(i) or (ii) shall be provided with equipment which shall automatically divert the flow of the milk or cream which is not retained at the appropriate temperature required in (*a*)(i) and with a device which shall automatically record the operation of the flow diversion equipment.

(*e*) Indicating and recording thermometers shall be installed in suitable places in the pasteurising appliance to indicate and record the temperature to which the cream is heated or at which the milk or cream is retained. These thermometers shall be marked in graduations of not greater than 1°C or 2°F, adequately spaced to give clear readings.

(*f*) Records of the operation of the flow diversion equipment and of temperatures shall be correctly dated and shall be retained for a period of not less than two months.''.

(5) **For Part 3 of Schedule 4 there shall be substituted:—**

"PART 3

3. *Method of manufacturing ultra-heat treated cream*

Ultra-heat treated cream shall be manufactured as follows:

(*a*) The cream shall be separated from milk and shall be heated to and retained at a temperature of not less than 140°C for a period of at least two seconds or to such other temperature for such other period to give an equivalent sterilising effect.

(*b*) The appliance used shall be provided with a device which shall automatically divert or stop the flow of any cream which has not been heated to the appropriate temperature required in paragraph 3(*a*).

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

(i) by the direct injection of cream into steam or of steam into cream; or

(ii) by heat transfer to the cream without direct contact between the heating medium and the cream.

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

(i) the steam shall be produced from water which is clean, free from pollution and contains no additives other than the following permitted boiler feed water treatment compounds:—

Potassium Alginate
Sodium Alginate
Potassium Carbonate
Sodium Carbonate
Sodium Hydroxide
Monosodium Dihydrogen Orthophosphate
Disodium Monohydrogen Orthophosphate
Trisodium Orthophosphate
Sodium Tripolyphosphate
Sodium Hexametaphosphate
Tetrasodium Pyrophosphate
Sodium Silicate
Sodium Metasilicate
Sodium Sulphate
Magnesium Sulphate
Neutral or Alkaline Sodium Sulphite
Unmodified Starch
Sodium Aluminate
Polyoxyethylene Glycol (Minimum Molecular Weight 1,000);

(ii) the steam shall be produced in such manner as will ensure that no solid matter is carried over from the boiler. 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 cream heating appliance;

(iii) only steam produced in accordance with (i) and (ii) and the internal surfaces of the equipment shall be allowed to come into contact with the cream;

(iv) 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 cream;

(v) an amount of water equivalent to that added to the cream in the form of steam shall be extracted from the cream by a process of

evaporative cooling so that the percentage by weight of the total solids content of the cream shall be the same after treatment as before treatment;

(vi) the appliance used shall be provided with control apparatus which shall ensure compliance with the provision in (v). 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 cream so as to determine the input and output temperatures of the cream. Records of the input and output temperatures, and the particular temperatures used for treating cream, shall be kept with such appliance;

(vii) indicating and recording thermometers marked with graduations of not greater than 1°C or 2°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 temperature and the output temperature and continuously record the ultra-heat treatment temperature and both the input and output temperatures or one of them and the difference between them. All such records shall be correctly dated and retained for a period of not less than 12 months;

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

(*e*) 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 cream is heated and retained. The thermometer shall be marked in graduations of not greater than 1°C or 2°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.".

(6) **After Part 3 of Schedule 4 there shall be added:—**

"PART 4

4. *Method of manufacturing sterilised cream*

Sterilised cream shall be manufactured as follows:

(*a*) The cream shall be separated from milk and heated:—

(i) in containers in which it will reach consumers to a temperature of not less than 108°C and retained at that temperature for not less than 45 minutes or retained at such other temperature for such other period to give an equivalent sterilising effect; and

(ii) the cream shall be cooled as soon as practicable thereafter.

(*b*) Indicating and recording thermometers shall be installed in suitable places in the heat treating appliance to indicate and record the temperature to which the cream is heated and retained. These thermometers shall be marked in graduations of not greater than 1°C or 2°F adequately spaced to give clear readings.

(*c*) Records of the recording thermometers shall be correctly dated and retained for a period of not less than 12 months.".

(7) **For Schedule 8 there shall be substituted:—**

"SCHEDULE 8

The Taking, Holding, Transport and Testing of Samples

PART 1

THE TAKING, HOLDING AND TRANSPORT OF SAMPLES

1. *Skimmed milk*

(1) Samples may be taken on the day of production or at any time after separation and pasteurisation and before delivery to the consignee.

(2) The skimmed milk from which the sample is to be taken shall be thoroughly stirred immediately before sampling. The sample shall be drawn from below the surface of the skimmed milk and transferred to a bottle which shall be immediately stoppered.

(3) The sampling containers and appliances shall be sterile.

2. *Cream for sale for human consumption as pasteurised cream and farm bottled cream*

(1) Samples may be taken in registered premises not later than the day following the day of manufacture and before departure from the premises where it was manufactured or as the case may be where it was put into retail containers.

(2) When the cream is in containers not exceeding 1 litre in capacity, the sample shall consist of one such container which shall be delivered intact to the testing laboratory.

(3) When the cream is in containers exceeding 1 litre in capacity, it shall be thoroughly stirred immediately before sampling. The sample shall be drawn from below the surface of the cream and transferred to a bottle which shall be immediately stoppered.

(4) The sampling containers and appliances shall be sterile.

3. *Cream for sale as ultra-heat treated cream and sterilised cream*

(1) Samples of ultra-heat treated cream may be taken at any time after the cream has been filled into the containers. A sample shall consist of one such container which shall be delivered intact to the testing laboratory.

(2) Samples of sterilised cream may be taken at any time after the cream has been subjected to a sterilising heat treatment process. A sample shall consist of one container of cream which shall be delivered intact to the testing laboratory.

4. *Cultured buttermilk*

(1) Samples may be taken at any time after the cultured buttermilk has been manufactured and before departure from the premises where it was manufactured.

(2) Where the buttermilk is in containers not exceeding 2 litres in capacity, the sample shall consist of one such container which shall be delivered intact to the testing laboratory.

(3) When the buttermilk is in containers exceeding 2 litres in capacity, it shall be thoroughly stirred immediately before sampling. The sample shall be drawn from below the surface of the buttermilk and transferred to a bottle which shall be immediately stoppered.

(4) The sampling containers and appliances shall be sterile.

5. *Transport and holding of samples of skimmed milk, buttermilk, pasteurised cream and farm bottled cream*

(1) The sample shall be transported in its intact closed bottle or other container to the testing laboratory with the least possible delay. The sample shall be placed in an insulated box containing an adequate quantity of a suitable refrigerant for transport to 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.

6. *Identification of samples*

The person taking the sample 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;

(*b*) the name and address and registered number of the premises on which the product was processed or manufactured;

(*c*) the place, date and time of sampling;

(*d*) where appropriate particulars of the vessel from which the sample was taken;

(*e*) the signature of the sampling officer.

Part 2

The Treatment of Samples and Preparation of Dilutions

7. *Pre-incubation of ultra-heat treated cream and sterilised cream*

Samples shall be placed in an incubator at a temperature of 37°C±1°C and retained at that temperature for 24 hours. If testing does not commence immediately thereafter the samples shall be placed in a refrigerator and held at a temperature of not more than 5°C until testing commences.

8. *Preparation of dilutions*

(1) The following apparatus, which shall be sterile, shall be used:—

(*a*) 1.0 ml straight-sided blow-out delivery pipettes; and

(*b*) dilution tubes or flasks stoppered by means of a solid stopper or tightly fitting cover.

(2) The diluent which shall be sterile shall be either 2.0 per cent by weight aqueous sodium citrate solution or one-quarter strength Ringer's solution made according to the following formula:—

Sodium chloride	9.0 grammes
Potassium chloride	0.42 gramme
Calcium chloride (Anhydrous)	0.24 gramme
Sodium bicarbonate	0.2 gramme
Distilled water	4,000 millilitres

(3) To make a 1 in 10 dilution of skimmed milk, buttermilk or tanker swab solution, the sample of the said skimmed milk, buttermilk or tanker swab solution shall be thoroughly mixed. Using a pipette 1.0 ml of the sample shall be

transferred to a dilution tube or flask containing one-quarter strength Ringer's solution of a volume not less than 8.9 ml and not more than 9.1 ml. The contents of the dilution tube or flask shall be thoroughly mixed.

(4) To make a 1 in 10 dilution of farm bottled cream or pasteurised cream, the cream sample shall be placed intact into a water bath maintained at a temperature of not less than 35°C and not more than 40°C for a period of not less than 20 minutes and of not more than 30 minutes. The sample shall be well mixed and 10 grammes shall then be weighed into a dilution flask containing not less than 89 ml and not more than 91 ml of 2.0 per cent by weight sodium citrate solution at a temperature of not less than 35°C and not more than 40°C and the contents thoroughly mixed.

(5) To make a 1 in 10 dilution of ultra-heat treated or sterilised cream the sample shall be well mixed and a portion shall be removed aseptically and 10 grammes shall then be weighed into a dilution flask containing not less than 89 ml and not more than 91 ml of 2.0 per cent by weight sodium citrate solution at a temperature of not less than 35°C and not more than 40°C and the contents thoroughly mixed.

(6) To make a 1 in 100 dilution of farm bottled cream, buttermilk or swab solution, 1.0 ml of a 1 in 10 dilution shall be transferred to a dilution tube or flask containing not less than 8.9 ml and not more than 9.1 ml of one-quarter strength Ringer's solution and the contents of the tube or flask shall be thoroughly mixed.

(7) To make a 1 in 1,000 dilution of farm bottled cream, 1.0 ml of a 1 in 100 dilution shall be transferred to a dilution tube or flask containing not less than 8.9 ml and not more than 9.1 ml of one-quarter strength Ringer's solution and the contents of the tube or flask shall be thoroughly mixed.

(8) A fresh pipette shall be used for the preparation of each dilution.

Part 3

The Coliform Test

9. *Apparatus*

The following apparatus, which shall be sterile, shall be used:—

(*a*) 1.0 ml straight-sided blow-out delivery pipettes and 10.0 ml straight-sided delivery pipettes;

(*b*) culture medium tubes for testing skimmed milk or buttermilk which comply with British Standard 3218: 1982, or 625: 1959, 150/16 and which contain an inverted Durham tube conforming with British Standard 3218: 1982 or 625: 1959, 35/8;

(*c*) culture medium tubes for testing cream which comply with British Standard 3218: 1982 or 625: 1959, 150/19 and which contain an inverted Durham tube conforming with British Standard 3218: 1982 or 625: 1959, 35/8.

10. *Medium*

Sterile MacConkey broth made according to the following formulae and with a pH of 7.0—7.2 shall be used:—

(a) Single Strength MacConkey broth

Bile Salts	5 grammes
Lactose	10 grammes
Peptone	20 grammes
Sodium Chloride	5 grammes
Distilled water	1,000 millilitres

Bromo-cresol purple (1.6 per cent alcoholic solution)	2 millilitres

(b) Double Strength MacConkey broth

Bile Salts	10 grammes
Lactose	20 grammes
Peptone	40 grammes
Sodium Chloride	10 grammes
Distilled water	1,000 millilitres
Bromo-cresol purple (1.6 per cent alcoholic solution)	4 millilitres

11. *Method of testing*

After mixing, a 1 ml portion of a 1 in 10 dilution of skimmed milk or of a 1 in 100 dilution of buttermilk shall be transferred by means of a pipette to each of 3 culture tubes containing about 5 ml of Single Strength MacConkey broth. The culture tubes shall not be shaken after the addition of the dilution. The culture tubes shall be incubated at 30°C±1°C for 72 hours and examined for acid and gas production. Cream shall be tested in a similar manner except that 10 ml of the 1 in 10 dilution shall be transferred using a pipette to each of 3 culture tubes containing about 10 ml of Double Strength MacConkey broth.

12. *Interpretation*

The sample shall be regarded as satisfactory if 2 out of 3 tubes are found to be free from acid and gas after incubation at 30°C±1°C for 72 hours.

Part 4

Total Bacterial Colony Count Test

13. *Apparatus*

The following apparatus, which shall be sterile, shall be used:—

(*a*) 1.0 ml straight-sided blow-out delivery pipettes; and

(*b*) Petri dishes which comply with British Standard 611: 1952.

14. *Medium*

The culture medium shall be sterile and shall have a pH of 7.0—7.2 and shall be prepared in accordance with the following formula:—

Yeast extract	3 grammes
Peptone	5 grammes
Agar-agar	12-20 grammes
Fresh skimmed milk or equivalent	10 millilitres
Distilled water	1,000 millilitres

15. *Method of testing*

(1) After mixing, a 1.0 ml portion of the can rinse solution or the 1 in 100 dilution of tanker swab solution or the sample of ultra-heat treated cream or the sample of sterilised cream or the 1 in 10 dilution of ultra-heat treated cream or the 1 in 10 dilution of sterilised cream or the 1 in 1,000 dilution of farm bottled cream shall be transferred by means of a pipette into the centre of a Petri dish.

(2) A volume of about 11 ml of the culture medium which shall have been melted and cooled to about 45°C shall be delivered under aseptic conditions into the Petri dish and immediately thereafter the contents of the dish shall be mixed.

(3) The time which shall elapse between the preparation of the dilution and the pouring of the Petri dishes shall not exceed 15 minutes.

(4) (*a*) The plate shall be incubated bottom upwards at 30°C±1°C for 3 days.

(*b*) Colonies on the dishes shall be counted within four hours of removal from the incubator. A box allowing for examination of the dishes by combined reflected and transmitted light against a dark background shall be used. To facilitate counting, a lens not exceeding a magnification of ×2½ diameters shall be used.

(5) The bacterial count per millilitre or per gramme 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.

PART 5

THE PHOSPHATASE TEST

16. *Precautions*

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;

(*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 distilled water shall be used throughout.

17. *Apparatus*

(1) The following apparatus shall be used:—

(*a*) a water bath maintained at 37°C±1°C by a reliable automatic thermostat;

(*b*) a pipette or automatic burette to deliver 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 or 625: 1959, 150/16 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 paranitrophenol 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.

18. *Reagents*

(1) The reagents shall be of analytical reagent quality.

(2)(*a*) A buffer solution shall be prepared by dissolving 3.5 grammes of anhydrous sodium carbonate and 1.5 grammes of sodium bicarbonate in distilled water and by making the solution up to one litre with distilled water; and

(*b*) a buffer substrate solution shall be prepared by dissolving 0.15 gramme disodium paranitrophenol ortho-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 not less than 2°C and not more than 5°C and shall not be used after seven 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 ml depth and shall give no appreciable colour.

19. *Method of testing*

(1) All samples shall be brought to room temperature immediately before being tested.

(2) Using a pipette or an automatic burette 5 ml of the buffer substrate solution shall be transferred to a test tube. The tube shall be stoppered and placed in a water bath maintained at a temperature of 37°C±1°C. After not less than 3 minutes 1 ml of the well mixed skimmed milk sample shall be added, the tube closed with a rubber stopper and the contents well mixed by shaking. After incubation at 37°C±1°C for 120 minutes the tube shall be removed from the water bath and placed without delay in the Lovibond comparator after thorough mixing, and the degree of colour measured using the disc described in paragraph 17(*f*). The measurement shall be made in daylight or under a source of fluorescent light. A sample of boiled skimmed milk shall be tested at the same time and in a similar manner and if the colour measurement exceeds that of disc 0 the result of the test shall be void.".

Sealed with the Official Seal of the Department of Agriculture for Northern Ireland on 26th October 1983.

(L.S.) *S. R. Armstrong*
Assistant Secretary

EXPLANATORY NOTE

(This note is not part of the Regulations.)

These regulations amend the Marketing of Milk Products Regulations (Northern Ireland) 1966 by prescribing:

(1) the method of manufacture of sterilised cream;

(2) quality standards for sterilised cream; and

(3) packing requirements for sterilised cream.

They also introduce new provisions for the keeping of records in relation to the production, purchase and sale of cream or milk for the production of cream and allow a wider range of heat treatment requirements to be used in the manufacture of pasteurised and ultra-heat treated cream.