

MILK BY-LAWS AND REGULATIONS

The Administrator hereby, in terms of sections 101 and 164(3) of the Local Government Ordinance, 1939, publishes the by-laws and regulations set forth hereinafter, which have been approved and made by him in terms of sections 99 and 126(1)(a) respectively of the said Ordinance.

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PART 1

INTERPRETATION AND APPLICATION

1. (1) These by-laws shall be interpreted as being additional to and not as derogating from the Council's by-laws relating to the handling, storage and sale of foodstuffs, which by-laws shall apply to all premises on which milk is produced or handled.
- (2) (a) All premises, except those approved by the Council and used in

connection with the handling of milk prior to the promulgation hereof and which have after such promulgation continuously been so approved and used, shall comply with the requirements laid down in these by-laws: Provided that any alteration made to such premises after promulgation shall comply with the relevant provisions hereof.

- (b) Notwithstanding the provisions of paragraph (a), the Council may, in the interest of public health require the permit holder to comply with the provisions of sections 7(2) (a) and (g), 8(b), (d) and (i), 24(9), (11), (12), (14), (17) and (18), 25(7) (e) and (j) and 31 A.
- (3) For the purposes of these by-laws, unless the context indicates otherwise, the following words and expressions shall have the respective meanings set out hereunder:
- (i) “adequate” and “effective” means adequate or effective, as the case may be, in the opinion of and “approved” means approved by the medical officer of health, regard being had to the reasonable public-health requirements of the particular case, and, in addition, the word “approved” in connection with the words “premises”, “dairy farm”, “diary” or “milk shop” means, in particular, premises in respect of which a control permit has been issued; (xxxviii)
 - (ii) “appliance” means every receptacle, vessel, utensil, measure, apparatus or any other thing whatsoever which is used for the collection, keeping, storage, preparation, stirring, conveyance, measurement, delivery or distribution of milk, milk products or composite dairy products and includes any lid, cover, stopper or other loose part likely to come into contact with the contents of any such appliance; (xxxix)
 - (iii) “appointed day” means the day falling on the date of promulgation of these by-laws; (x1)
 - (iv) “change-room” means a room set aside for the purpose of employees changing into working protective clothing, storage of employees’ clothing, ablution and for purposes of dining where permitted; (x)
 - (v) “Code” means the Code of Practice for the Testing of Milk, Milk Products, Composite Dairy Products and Fruit Juices as approved by the Administrator from time to time; (xi)
 - (vi) “coliform bacteria” means aerobic and facultatively anaerobic, Gram-negative, non-spore-forming rods capable of fermenting lactose in the presence of bile salts with the production of acids and gas at about 30 °C to 38 °C within 48 hours; (iii)
 - (vii) “composite dairy product” means any food intended for human consumption which contains not less than 50 % (m/m) of milk constituents in the dry matter of such product with or without colouring matter, flavouring or sweetening, excluding cheese, butter, milk powder, skim milk powder, baby foods, condensed milk, ice-cream and sherbet; (xxxvi)
 - (viii) “control permit” means a permit issued in terms of these by-laws to control the introduction into or handling within the municipal area of milk, milk products or composite dairy products; (ii)

- (ix) "Council" means the Town or Village Council or Health Committee of the municipality concerned, and includes the Management Committee of such Council, acting under the powers delegated to it in terms of section 58 of the Local Government (Administration and Elections) Ordinance, 1960, and any officer to whom that Committee has been empowered by the Council in terms of subsection (3) of the said section to delegate and has in fact delegated the powers, functions and duties vesting in the Council in relation to these by-laws; (xxxiv)
- (x) "cowshed" means any building or structure or in either case any part of such building or structure used or intended to be used for the accommodation of cows while they are being milked; (xii)
- (xi) "cream" means that part of milk, as defined in the Regulations under the Foodstuffs, Cosmetics and Disinfectants Act, 1972, (Act 54 of 1972), which has been separated by skimming or otherwise; (xxxv)
- (xii) "dairy" means any premises in which the business of a dairy as contemplated in item 24 of Schedule 1 of the Ordinance is carried on; (xvii)
- (xiii) "dairy farm" means premises on which dairy stock is kept for the production of milk; (xxii)
- (xiv) "dairy stock" means bulls, cows, heifers and calves; (xvi)
- (xv) "Escherichia coli type 1 bacteria (faecal coli)" means that organism which produces gases at 44 °C ± 0,25 °C in 2 % (m/v) brilliant green bile broth and produces indole in tryptone water at the same temperature; (iv)
- (xvi) "feeder milk tanker" means a milk tanker used for the conveyance of milk in bulk from dairy farms to a milk transfer depot; (i)
- (xvii) "farm bulk tank" means a tank used on a dairy farm or milk collecting depot for the purposes of refrigeration and storage of milk in bulk; (viii)
- (xviii) "handling" means the production, bottling, packaging, preparation, sale, conveyance, delivery, storage, serving, heat treatment or any other treatment or handling of milk; (ix)
- (xix) "licence" means a licence issued in terms of the Ordinance and "licensed" shall have a corresponding meaning; (xiii)
- (xx) "licensee" means the holder of a licence; (xiv)
- (xxi) "livestock" means cattle, sheep, goats, horses, mules, donkeys, pigs, dogs, cats and domesticated birds; (x1i)
- (xxii) "medical officer of health" means the medical officer of health of the Council, any person authorized to act on his behalf or any person appointed by the Council to give effect to the provisions of these by-laws; (xxxvii)
- (xxiii) "milk" means milk derived from cows and includes milk that has been subjected to pasteurization, sterilization or any other form of heat treatment, and also cream whether contained in a heat-sealed container or not, but shall not include cream or condensed milk

- processed and packed for prolonged storage without refrigeration;
(xv)
- (xxiv) “milking parlour” means any building, room or part of premises in which a succession of cows is milked exclusively by mechanical means and which is used exclusively for such milking; (xxiv)
- (xxv) “milk producer” means the owner or person in control of a dairy farm;
(xxiv)
- (xxvi) “milk product” means the following products derived from milk, that is to say, separated milk, skimmed milk, buttermilk, cultured buttermilk, cultured milk and cultured milk products; (xxiii)
- (xxvii) “milk purveyor” means any person who sells or offers or exposes milk, milk products or composite dairy products for sale in the course of conducting a business as contemplated in terms 3 and 20 of Schedule 1 of the Ordinance; (xix)
- (xxviii) “milk room” means a room used for the purpose of cooling, pasteurizing or otherwise heat treating, sterilizing, handling or storing milk, milk products or composite dairy products or for filling, overcapping and sealing containers for the distribution of milk, milk products or composite dairy products; (xviii)
- (xxix) “milk shop” means premises at or in which the business of a milk shop as contemplated in item 26 of Schedule 1 of the Ordinance is conducted; (xxvii)
- (xxx) “milk tank” means a tank used for the conveyance of milk in bulk;
(xxv)
- (xxxi) “milk tanker” means a vehicle with a milk tank used for the conveyance of farm bulk milk and includes any trailer used for a similar purpose; (xxvi)
- (xxxii) “milk transfer depot” means premises from which feeder milk tankers operate for the purpose of the collection of milk from dairy farms and where transfer of such milk to larger milk tankers for delivery to dairies is undertaken; (xxi)
- (xxxiii) “municipal area” means the area under the jurisdiction of a Council including outside areas as defined in section 2 of the Local Government Ordinance, 1939; (xxviii)
- (xxxiv) “Ordinance” means 'The Licences Ordinance, 1974 (Ordinance 19 of 1974)'; (xxxi)
- (xxxv) “pasteurized milk” means milk to which a process described in section 38 has been applied, and the expression “pasteurization: shall be construed accordingly; (v)
- (xxxvi) “permit holder” means the holder of a control permit: (xxxii)
- (xxxvii) “premises” means any land or buildings on or in which any of the activities regulated by these by-laws are carried on; (xxxiii)
- (xxxviii) “receiving room” means a room or approved area forming a part of, adjoining or used in connection with a dairy or dairy farm and used for the purpose of receiving milk or milk products in bulk, for

straining, measuring, sampling, testing or grading milk or milk products and for the washing of milk cans by mechanical means; (xxix)

- (xxxix) “sell” includes offering or exposing for sale, but does not include the sale or supply to licensed creameries or sterilizing plants or condensed or powdered milk factories; (x1iii)
- (xl) “sterilized milk” means milk to which the process described in section 39 has been applied, and the expression “sterilization: shall be construed accordingly; (vii)
- (xli) “veterinarian” means a veterinarian registered in terms of section 11 of the Veterinary Act, 1933 (Act 16 of 1933) ; (x1ii)
- (xlii) “wash-up room” means a room or in the case of a milk shop an area in a room forming part of or adjoining, or used in connection with the supply of milk from a dairy farm or dairy and used for the washing, cleansing and sterilizing of appliances used in handling or for containing milk or milk products; (xxx)
- (xliii) “wholesome water” means water of a bacteriologically potable standard which complies, at least, with the maximum allowable limits outlined in SABS 241 – 1971 or equivalent to water of such higher standard as the Council may make available or prescribe by resolution. (vi).

PART 11

CONTROL PERMITS

GENERAL PROVISIONS

- 2. (1) (a) Control permits issued in terms of these by-laws shall be issued subject to such conditions as the Council may impose.
- (b) Control permits and licences shall be exhibited in a clearly visible and protected position on the premises to which they relate.
- (2) No person shall introduce into, sell, supply, accept or receive for purposes of sale or disposal in the municipal area any milk or milk product or composite dairy product: -
 - (a) which has not originated or been produced on a dairy farm in respect of which a valid control permit has been issued, specifying the milk, milk products or composite dairy products which may be introduced, sold, supplied, accepted or received; and
 - (b) which has not been delivered for a dairy farm directly to a dairy in respect of which a control permit has been issued: Provided that this prohibition shall not apply: -
 - (i) to the delivery of milk for the manufacture of butter, cheese, condensed milk, milk powder and skim milk powder to factories registered in terms of the Dairy Industry Act, 1961 (Act 30 of 1961), as amended;
 - (ii) to the introduction of pasteurized cream produced and packed in containers complying with the requirements of section 35(4) at a dairy farm in respect of which a control permit has been issued for the introduction into and handling within the municipal area of cream only which is delivered directly to

premises in the municipal area in respect of which a milk purveyor's licence is held;

- (3) A control permit issued in terms of section 3(2)) shall, in addition to the special conditions contained in subsection (1) of this section, be subject to the following conditions:
 - (a) In the case of a control permit issued in terms of section 3(1)(a):
 - (i) No permit holder who produces milk which he intends for introduction or which he has reason to believe will be introduced or is intended for introduction in to the municipal area in a milk can or other container containing milk produced only by himself, shall dispatch such milk from his premises in such containers unless they are sealed, locked or otherwise so secured as effectively to prevent the contents from being tampered with during transit, and bear on their exterior in clear letters not less than 12 mm high, his name and the address of the premises at which the milk was produced.
 - (ii) No person shall place in any container referred to in subparagraph (i) any milk, which has not been produced at the dairy farm, named thereon.
 - (iii) No permit holder shall receive at his dairy farm milk produced at any other premises.
 - (iv) No permit holder shall receive at his dairy farm or dispatch therefrom any milk or milk product, which has not been produced at a dairy farm in respect of which a control permit has been issued in terms of section 3.
 - (a) In the case of a control permit issued in terms of section 3(1)(b):

No permit holder shall receive, handle or store in such dairy, or receive, introduce into, sell or supply in the municipal area any milk or milk product which has not been produced at a dairy farm in respect of which a control permit has been issued by the Council in terms of section 3.
- (4) No owner or person in control of a dairy outside the municipal area shall introduce, sell or supply any milk or milk product or composite dairy product unless he himself is the holder of a control permit in respect of the said dairy.
- (5) No control permit shall be issued unless a valid licence is held in respect of the premises for which a control permit has been applied for.
- (6) No person shall sell or deliver milk to a consumer within the municipal area from any place other than premises in side such area which have been approved by the Council for that purpose.
- (7) No person shall receive, handle or store at the licensed premises any milk, milk products or composite dairy products which has not been produced at a dairy farm or on premises in respect of which a control permit or licence has been granted under this section.
- (8) Save to the executor in the estate of a deceased permit holder no control permit shall be transferable.
- (9) When, on a charge of contravening any provision of this section, the fact that milk, a milk product or a composite dairy product has originated and been produced at a dairy farm or on premises in respect of which the occupier or person in control has been issued a control permit by the Council in terms of

the provisions hereof is a valid defence, the burden of proving the fact shall be on the person charged.

ISSUE

3. (1) The Council shall, subject to the provisions of section 2 and subject to such conditions as it deems fit to impose, annually issue in the name of the owner or other person in control of : -
 - (a) a dairy farm; and
 - (b) a dairy,who shall be fit and proper person to be so permitted, a control permit for the introduction and handling of milk, milk products or composite dairy products into and within the municipal area in respect of such dairy farm or dairy and shall exercise supervision over such dairy farm or dairy for the period of validity of such control permit.
 - (2) A control permit shall be issued free of charge.
 - (3) The Council may arrange with any other local authority to exercise on its behalf all its functions relating to control, inspection and supervision authorized by these by-laws.
4. (1) The Council may cancel or suspend for such period as it deems necessary or refuse to issue a control permit if: -
 - (a) If is satisfied that the premises in respect of which it has been or is to be issued or any equipment, appliances or dairy stock on such premises do not comply with the provisions of these by-laws; or
 - (b) any milk, milk product or composite dairy product produced or handled at the said premises appears, form a sample thereof taken at any time before it s consumption, not to comply with the standards prescribed therefore in terms of these by-laws; or
 - (c) any permit holder or person in control of the premises to which the control permit relates, personally or through his servant has obstructed any authorized officer in the execution of his duty or has not afforded him the opportunity of taking samples and making tests; or
 - (d) the person who is in control of any premises in which the ;milk of the permit holder is produced, collected, prepared, cooled, stored or in any manner treated or handled fails by himself or a deputy deemed by the medical officer of health to be a competent person to exercise proper and effective supervision of any of the said operations throughout their performance; or
 - (e) the permit holder, in the opinion of a veterinarian, fails to maintain any dairy stock kept in or on the premises on which the milk is produced, or in or on premises of which the premises first-mentioned form part, in a state of good health and nutrition or to inoculate such dairy stock in terms of the provisions of section 28(7); or
 - (f) the permit holder permits a change in the state of the premises or the size of the herd so that these are no longer of approved construction or size respectively; or
 - (g) any person who owns, controls or is in charge of premises where milk is handled, whether inside or outside the municipal area, is guilty of any act or

omission which would constitute an offence if the said premises were situated in the municipal area; or

- (h) the occupier or person in control of a dairy farm uses a cowshed or milking parlour or allows it to be used for milking cows at a time when any of the provision of section 24 in the case of a cowshed and section 24(2), (9), (11), (13) and 16(c) in the case of a milking parlour are not being or have been served upon him by the Council; or
- (i) the owner or other person in charge of a dairy farm having failed to comply with any of the provisions of these by-laws, fails to comply therewith within a reasonable time after a written notice calling for compliance therewith, has been served upon him by the Council, or
- (j) the permit holder introduces into, or receives, sells or supplies within the municipal area any milk or milk product which: -
 - (i) is produced within or outside the municipal area on any premises in respect of which no control permit has been issued in terms of these by-laws or on premises other than those to which a control permit issued to hi relates;
 - (ii) does not comply with the requirements of these by-laws, the Public Health Act, 1919, or the Foodstuffs, Cosmetics and Disinfectants act, 1972, or any regulations applicable thereunder; or
- (a) the permit holder fails to comply with the requirements of section 17(15) to (17) inclusive;
- (1) the permit holder ceased to be the holder of a valid licence in respect of the premises for which the control permit was issued.
- (2) When a control permit has been cancelled or suspended in terms of subsection (1) no person within the municipal area shall buy, sell or otherwise dispose of or in any way deal with milk or milk products produced, stored or in any way handled at premises to which the cancelled or suspended permit relates.
- (3) The medical officer of health shall, as soon as a control permit has been cancelled or suspended, notify the holder of that fact in writing.
- (4) When a control permit has been cancelled or suspended the Council may, subject to all the provisions of these by-laws including those relating to the issue of a new control permit, issue a new control permit or reinstate the suspended control permit as soon as it is satisfied that he reason for the cancellation or suspension no longer exists and that there is no other reason why such new issue or such reinstatement should not take place.
- (5) (a) If is appears to the medical officer that the consumption of any milk, milk product or composite dairy product produced or handled at any premises, whether within or outside the municipal area, is for any reason not in the interest of the public health, he may then and there orally prohibit the introduction into or the sale, supply, storage, handling or use in the municipal area of such milk, milk product or composite dairy product from such premises and if necessary take steps to ensure that such milk, milk product or composite dairy product is used for approved purposes only.

- (b) The medical officer of health shall, as soon as is reasonably practicable after issuing a prohibition in terms of paragraph (a), confirm or revoke such prohibition in writing.
- (c) An oral prohibition in terms of paragraph (a) and written prohibition in terms of paragraph (b) shall be conveyed to the owner or person for the time being on control of the premises or the milk, milk product or composite dairy products personally.
- (d) A prohibition issued in terms of paragraph (b) shall remain in force until written revocation thereof, signed by the medical officer of health, has been personally served upon the person on whom written prohibition was served.
- (e) No person shall introduce into or sell, supply, store, handle or use, or sell or dispose, of for consumption within the municipal area any milk, milk product or composite dairy product produced at or emanating from any premises in respect of which a prohibition issued in terms of this section has been served.

PART III

GENERAL REQUIREMENTS FOR PREMISES

CLEANLINESS

- 5. (1) (a) The premises used in the carrying on of the business of a dairy farm, a dairy, a milk shop or a milk purveyor shall at all times be kept in a clean and sanitary condition and in good repair;
- (b) Such premises shall not be situated on land liable to receive or be polluted by soil water or waste water from any building.
- (2) No cowshed, milking parlour, room or building used for the purpose of handling or storing milk or the washing of any appliance used in connection with the handling of milk or milk products shall be used as a sleeping place for any human being or for any purpose which is, in the opinion of the medical officer of health, incompatible with the purposes mentioned in this subsection or liable to result in the contamination of any milk or milk product.
- (3) Effective and adequate measures for the prevention of the breeding and for the destruction of insects, rodents and all other vermin shall be provided and maintained on all premises to which these by-laws relate.
- (4) Manure shall not be accumulated for more than 24 hours within 15 m of any place where milk is handled and any accumulation of manure shall be effectively treated to preclude the breeding of flies or the creation of a nuisance.
- (5) No poison shall be kept or stored in any part of premises referred to in subsection (1) (a) other than in an approved place and manner.

RECEIVING ROOMS

- 6. (1) All milk arriving at a dairy receiving room shall, unless immediately processed, forthwith be cooled at a temperature not exceeding 9° C at which temperature it shall be maintained until it leaves the premises or is processed.

- (2) No receiving room shall be used for any purpose other than the straining, measuring, sampling, testing, grading or reception of milk or milk products or the washing of milk cans by mechanical means.
- (3) The testing of milk or milk products, if not carried out in the receiving room, shall be carried out in a room or part of a room set aside exclusively for that purpose.
- (4) Where a receiving room is provided the provisions of section 7(1) (a) to (c) and (2) (a) to (f) inclusive shall *mutatis mutandis* apply.

MILK ROOMS

- 7. (1) A milk room shall: -
 - (a) (i) not communicate directly with any dwelling, change-room, engine room or store-room.
 - (ii) only communicate with a cowshed by way of an aperture of minimum size necessary to accommodate the apparatus used for the transfer of milk from the cowshed to such milk room; and
 - (iii) communicate with a milking parlour only by way of a self-closing door between such milk room and the parlour;
 - (b) not be situated less than 15 m from any manure receptacle or midden, stable, kraal, calf pen, poultry house or run, or aviary and more than 10 m from any cowshed or milking parlour used in the production of milk;
 - (c) not be situated less than 140 m from any pigsty or land on which pigs are kept or allowed to run;
 - (d) not be used for any purpose other than the cooling, handling or storage of milk or milk products, the filling, over-capping, sealing or storing of clean containers, or the storing of utensils and receptacles in current use;
 - (e) if situated on a dairy farm, not be attached to, form part of or be within 15 m of any dwelling.
- (2) The following requirements shall be observed in regard to the construction of milk rooms;
 - (a) Walls shall be at least 2,7 m in height measured from the floor to the ceiling or wall plate and except where the floor to the ceiling or wall plate and except where glazed, glass or smooth hard-burnt, light-coloured face bricks or glazed tiles or similar approved material are used, the inside wall surfaces shall be plastered with cement plaster, brought to a smooth finish and covered with a light-coloured washable paint or effective plastic finish or otherwise so treated that they have a smooth, light-coloured and impervious surface, not being a distempered or other similar surface.
 - (b) Floors shall be of solid and impervious cement-concrete or other approved impervious material brought to a smooth finish, coved wherever it meets a wall and constructed to a fall at least 1 in 50 graded and drained for the efficient run-off of all liquids therefrom to an outside gully which shall be connected to a sewer or where no sewer is available to some other form of approved drainage system effective for the innocuous disposal of waste water or soil water.

- (c) The ceiling, or where there is no ceiling, the underside of the roof, shall be dust and rodent proof and shall be painted in a light-coloured washable paint or approved plastic finish.
 - (d) Any doorway to the milk room shall be fitted with a door impervious to dust.
 - (e) The total window area shall be not less than 15 % of the total floor area of the milk room and shall be fitted with glazed windows capable of being opened to the extent of at least one half of the window area.
 - (f) The milk room shall be adequately cross ventilated and both the milk room and receiving room, where provided, shall be equipped with artificial lighting adequate for the proper carrying on of operations therein at night.
 - (g) The unobstructed floor space shall be not less than 18 m² in area which may include the space occupied by the cold room provided that the floor area of the milk room is not less than 14 m².
 - (h) Where a farm bulk tank is installed an exit door shall be provided at a position nearest to the loading point of the road tanker.
 - (i) No gas, electricity or water conduit shall be laid or installed on the floor.
 - (j) Where a farm bulk tank is installed all doors leading to the milk room, as well as the wash-up room door to the milk room, should there be one, shall be lockable.
- (3) Every milk room shall be provided with: -
- (a) an approved appliance capable of effectively straining or clarifying milk;
 - (b) an appliance capable of rapidly cooling milk to a temperature of 7° C or less;
 - (c) a refrigerator or refrigeration compartment having internal walls constructed of hard face bricks or other approved impervious material, fitted with an accurate thermometer and capable of maintaining milk in tins containers at a temperature not exceeding 7° C;
 - (d) metal racks for the storing of cleaned containers, receptacles and utensils in current use, that part of the metal racks or devices on which the said articles are to be stored being at least 500 mm above the level of the floor;
 - (e) approved mechanically operated appliances for the filling and over capping of bottles and cartons, where these operations are performed;
 - (f) a wash-hand basin fitted with a waste pipe as prescribed in terms of the Council's by-laws, kept in a clean condition and maintained in good order with an adequate and wholesome supply of hot and cold running water;
 - (g) an adequate and wholesome supply of running water so arranged as to be incapable of being contaminated or polluted.
- (4) Tables, shelves and other similar equipment contained in a milk room shall be constructed of approved hard, smooth and impervious material and supported either on a pedestal surrounded by a free space or by legs or supports of approved impervious material, the space between which is open and accessible for cleaning purposes.

WASH-UP ROOMS

- (8) The following requirements shall be observed in regard to the construction and equipping of every wash-up room:
- (a) It shall not form part of a dwelling or communicate directly or by way of any aperture, whether used for purposes of ventilation or not, with any cowshed, milking parlour, engine room or change-room.
 - (b) It shall have a floor space of not less than 18 m² and where a farm bulk tank is installed in the milk room it shall have an area of not less than 9 m².
 - (c) It shall not be used for any purposes other than the cleaning or sterilizing of containers, appliances, utensils or other equipment used in the handling of or otherwise in connection with milk or milk products.
 - (d) Inside walls and any doorway shall comply with the requirements of section 7(2) (a) and (d) respectively.
 - (e) It shall have a floor, which complies in construction, and finish with the requirements of section 7(2)(b).
 - (f) It shall have a total window area of not less than 15 % of the total floor area of the room and shall be fitted with glazed windows capable of being opened to the extent of at least 50 % of their total area.
 - (g) It shall be adequately cross ventilated.
 - (h) It shall be provided with appliances including a three-compartment wash-up trough, for the cleaning and sterilizing of all containers, receptacles, utensils and other equipment, such appliances to be so situated as to be accessible from all sides for cleansing. Where milk pipe lines are washed by hand a wash-up trough of adequate dimensions shall be provided.
 - (i) It shall have an adequate and wholesome supply of water so arranged as to be incapable of being contaminated or polluted and an adequate supply of steam or hot water laid on to and piped over the wash-up trough, and shall be provided with effective cleansing and sterilizing agents.
 - (j) Metal racks for effectively draining and storing containers, receptacles, utensils and other equipment shall be provided, that part of the said racks on which the containers and other articles aforesaid are accommodated to be not less than 500 mm above the level of the floor.
 - (k) The prohibition in section 7(2)(i) shall apply.

CHANGE-ROOMS AND ABLUTION ROOMS

9. (1) With due regard to the number of employees on the premises every dairy farm shall be provided under the same roof and as an integral part thereof with separate change-rooms and ablution rooms for the different sexes and for Whites and Non-Whites, save where change-rooms and ablution rooms, complying with the provisions of these by-laws, are already in existence, attached to previously approved buildings and situated within 15 m of the nearest door of a newly erected cowshed or milking parlour.
- (2) The following requirements shall apply to such rooms:

- (a) They shall not be used for any purpose other than the changing of clothes or ablutions, as the case may be.
- (b) Access thereto shall be gained from the open air and the entrance shall be provided with a door or an adequate screen wall.
- (c) No room shall have a floor area of less than 7 m² or a width or length of less than 2 m or be less than 2,7 m high at any point.
- (d) Every room shall be equipped with adequate and efficient artificial lighting and the window openings thereof shall be unobstructed and have an aggregate area equal to not less than one tenth of the floor area.
- (e) The windows shall be capable of opening to the extent of half the total area of the window apertures.
- (f) Provision shall be made for the adequate cross-ventilation of every room.
- (g) At least one wash basin and one shower shall be provided for every 15 or part of that number of each group of the White and Non-White employees for whom accommodation has to be provided in terms of these by-laws.
- (h) Every shower and wash basin shall be connected to an adequate and wholesome supply of hot and cold running water so arranged as to be protected from contamination or pollution, and shall be fitted with waste pipes leading into an external gully connected to a sewer is available, to some other form of approved drainage system effective for the innocuous disposal of waste water. Such waste water shall not be permitted to flow in any drainage channel, into or through or on top of the floor of any building or room in which milk, milk products or composite dairy products are handled or kept or in which any appliance in connection therewith is handled or kept.
- (i) The inside walls shall comply with the requirements of section 7(2)(a) and the floor with those of section 7(2)(b).
- (j) An adequate supply of soap, clean towels or an approved hand-drying device, nail-brushes and wash basins for the use of employees at the dairy shall be provided and maintained in all change-rooms.

TOILET FACILITIES

- 10. (1) Approved separate latrines for the different sexes and for White and Non-White employees shall be provided on the premises.
- (2) Facilities provided shall comply with the following requirements:
 - (a) Every latrine shall be connected in accordance with the requirements of the Council's by-laws to the Council's installation: Provided that the medical officer of health may permit latrines in the form of pail closets, chemical closets or pit privies.
 - (b) No latrine may measure less than 1,5 m by 1 m across the floor or be less than 2,1 m high, and every latrine floor shall be of effectively drained concrete or other impervious material.
 - (c) In the case of pail or chemical latrines or pit privies, one shall be provided for every eight or part of that number of each group of Whites and Non-Whites employed on the premises and where water-borne sewerage is available, one water closet shall be provided for every fifteen or part of that number of such person: Provided that where urinals are installed, 600 mm of urinal shall

be deemed to be equivalent to one seat, where in the opinion of the Council, sufficient seats have been provided.

- (d) Pail privies shall be of the cradle type provided with a close fitting ringed seat and seat cover.
- (e) Pit privies shall be provided with a riser of concrete or corrosion-resisting metal with a loose-fitting ringed seat cover, and any opening to the pit shall be effectively screened against flies.
- (f) No part of a pail or chemical closet or of a pit privy shall be less than 30 m from any part of a cowshed or milking parlour, milk room, receiving room or wash-up room, and every such closet or pit privy shall be provided with a door or otherwise so placed and screened that its interior is not visible from the outside.
- (g) A water closet may not communicate directly with any room save a change-room or an ablution room and shall be provided with a door in accordance with paragraph (f).
- (h) No pail or chemical closet, pit privy or septic tank shall communicate directly or indirectly with any other room or be placed or allowed or remain in any position in which it could, in the opinion of the medical officer of health, cause contamination of any water supply or otherwise constitute a danger to health.
- (i) Every latrine shall be adequately cross-ventilated.
- (j) The walls of every latrine shall be of brick, concrete, stone, corrugated metal or such other approved material as can be thoroughly cleaned without deterioration of its surface.

PART IV

GENERAL REQUIREMENTS FOR HANDLING

CLEANLINESS OF PERSONS

- 11. (1) Clean and sound overalls of a light-coloured material or other approved light-coloured apparel shall be provided for the use of and worn by all persons whilst employed or engaged in the production, handling or conveyance of milk, milk products or composite dairy products.
- (2) Save where overalls are removed from the premises for the purpose of washing or repair, the personal clothing of overalls of any person referred to in subsection (1) shall, when not in use, be kept in a locker or other approved place.
- (3) An adequate supply of soap and nailbrushes shall be kept at the wash-hand basins in every milk room, change-room and milk shop and, in addition, an approved hand-drying device or an adequate supply of continuous or other approved clean towelling shall be provided.
- (4) Every person employed or engaged in the production or handling of milk, milk products or composite dairy products shall, immediately before beginning his work and immediately after any interruption thereof likely to result in the contamination of his hands, and particular after every visit to a latrine or urinal, wash and scrub his hand and finger nails with a nail brush, soap and water.

- (5) No person shall spit on any premises where milk or any milk product or composite dairy product is handled or, while engaged in such handling on the premises, smoke or use tobacco in any form.

APPLIANCES AND CONTAINERS

12. (1) The following requirements shall be observed in regard to the construction of all appliances used in the handling of milk, milk products or composite dairy products:
- (a) They shall be made of smooth, non-absorbent, corrosion resistant and non-toxic material, and so constructed as to be easily cleaned and sterilized and free from cracks or corrosion.
 - (b) All joints and inner surfaces shall be smooth and free from cracks.
 - (c) Milk pails shall be seamless.
 - (d) Strainers shall be of perforated metal design or so constructed as to utilise single service strainer media, which will not disintegrate when in use.
- (2) No persons shall have in his possession for use in connection with the handling of milk, milk products or composite dairy products and appliance which is not clean and in good repair on which is made of galvanised iron, copper, alloy of copper, inadequately tinned copper, inadequately tinned alloy of copper, rusty or inadequately tinned steel or iron or any appliance which is in any other respect inadequate.
- (3) Save where otherwise expressly permitted, no person shall sell or supply or have in his possession on the premises of a dairy farm, a dairy, a milk shop or a milk purveyor's premises any milk, milk product or composite dairy product in liquid form, unless it is contained in a bottle closed with an overcap completely and effectively covering its mouth, or in a container as described in section 34(2) or section 35(4), or in a milk can, or other container as specified in subsections (1) and (2).
- (4) Without prejudice to the provisions of section 34 relating to a milk shop or to those of section 35(4) relating to milk purveyors, no person carrying on the business of a dairy farm or a dairy shall sell or supply any milk, milk products or composite dairy products in containers which have not been filled and sealed on approved premises.
- (5) All cartons and containers, which will or can be used to hold milk and all materials which will or can be used in connection with the closing or sealing of containers shall be kept in approved dust-excluding containers.
- (6) No person shall, otherwise than by means of an approved mechanical device, apply an overcap as mentioned in subsection (3) to any bottle or heat sealing process to any carton containing milk or a liquid milk product.
- (7) Except in the case of milk or a milk product or composite dairy product sold or supplied for consumption on his premises by a person licensed to do so, no person shall use a can or other container for the sale, conveyance or delivery of milk, any milk product or composite dairy product unless he has marked his name or trade-name and his business address thereon in conspicuous lettering not less than 14 point in size.
- (8) No appliance designed or intended for use of ordinarily used in connection with milk, milk products or fruit juices referred to in section 33(4) shall at any time be used for any other purpose whatsoever.

- (9) All piping used to conduct milk, milk products or composite dairy products shall be of approved type and capable of being easily cleaned.

CLEANING OF APPLIANCES AND CONTAINERS

13. Save for cans in which milk has been delivered, which shall immediately after emptying be rinsed and thoroughly cleaned and disinfected, the product-contact surface of all appliances used in the handling of milk, milk products or composite dairy products shall, immediately after each usage, be rinsed with cold or lukewarm water and thoroughly cleaned. Immediately before each usage they shall be effectively drained after having been disinfected by one of the following methods, or by any other approved method:
- (a) exposure to steam for at least 15 minutes at a temperature of not less than 77° C or for at least 5 minutes at a temperature of not less than 93° C in a steam cabinet equipped with an indicating thermometer located in the coldest zone; or
 - (b) exposure to an enclosed jet of steam for not less than half a minute; or
 - (c) complete immersion in hot water at a temperature of not less than 77° C for at least 5 minutes, or exposure to a flow of hot water at a temperature of not less than 77° C measured at the outlet, for a similar period; or
 - (d) exposure in a properly designed oven or hot-air cabinet equipped with a suitable thermometer located in the coldest zone, to hot air at a temperature of not less than 82° C for at least 20 minutes; or
 - (e) complete immersion for at least 1 minute in, or spraying for at least 1 minute with, a chemical disinfectant of approved strength in such a way that all product contact surfaces are wetted by the disinfectant and piping so treated is filled. Chemical solutions once used shall not be re-used for disinfecting but may be re-used for other purposes.

HANDLING

14. (1) Every operation involving the handling of any milk, milk products or composite dairy products shall be conducted in such a manner and in such a place as to preclude the infection, contamination or adulteration thereof or of any appliance used in connection therewith, and in particular the requirements contained in the succeeding subsections shall be observed.
- (2) No person concerned in its sale or supply as contemplated in these by-laws shall, except in a milk room, in the course of the handling of any milk, milk product or composite dairy product, transfer it from one container to another by dipping any ladle or other utensil into either of them or otherwise.
- (3) No milk or milk product shall be transferred from one receptacle to another except at a dairy farm, dairy or milk transfer depot in respect of which a control permit has been issued or at a licensed milk shop: Provided that in the case of a milk shop the transfer of milk may only take place from a bottle into a receptacle provided by the purchaser.
- (4) No container containing milk or any milk product shall be handled in such a way that contamination of its contents is, in the opinion of the medical officer of health, likely to result.
- (5) No bottle-carrier or crate shall be stacked or placed in such a manner that the bottom thereof is in direct contact with or is likely to cause contamination or

soiling of the bottles in any carrier or crate beneath it or is likely to damage their overcaps.

- (6) All bottle-carriers and crates shall at all times be kept clean.
- (7) Bottles, cartons, cans or other containers of whatever kind not in current use shall be stacked, stored or placed in the store-room whether loose, in baskets, trays, racks, or in other containers or holders and shall at all times be so placed or handled as to prevent their contamination.
- (8) Milk and milk products supplied to consumers in the ordinary course of serving meals and light refreshments in or by recreational, sporting, social or other clubs, or by licensees of accommodation establishments, restaurants, catering establishments, cafes or eating houses shall: -
 - (a) have been produced at premises in respect of which a control permit has been issued in terms of section 3;
 - (b) except when being served, be kept in a refrigerator on the premises and maintained at a temperature not exceeding 7° C; and
 - (c) not be left exposed to flies, dust, foreign matter, or other contamination.
- (9) No person shall stack or store any milk bottles, cartons, cans or other containers whether in baskets, crates, trays or similar containers, whether or not containing milk or milk products or composite dairy products in any place other than a dairy farm, dairy, milk shop or on a delivery vehicle.
- (10) Milk shall be protected from the direct rays of the sun.
- (11) Pasteurised or sterilized milk shall not be permitted to come into contact with any appliance with which milk not or not yet pasteurized or sterilized has been in contact unless such appliance has first been thoroughly cleaned and sterilized as prescribed in section 13.
- (12) Save with the approval of the medical officer of health no appliance used for or in connection with the pasteurization and sterilization of milk shall be used in connection with any substance except milk, milk product or composite dairy product and no appliance which has not been effectively cleaned and sterilized as prescribed in section 13 shall be allowed to come into contact with milk which has been pasteurized or sterilized.
- (13) Milk in cans shall not be unloaded from a vehicle directly into a pasteurization or sterilization room but shall be unloaded therefrom into a receiving room, which complies with the provisions of section 6.
- (14) Where a quantity of milk not exceeding 100 Litres per day is delivered to any premises for consumption on such premises, such milk shall be delivered only in overcapped bottles or approved containers complying with the provisions of section 35(4).

CONVEYANCE

15. (1) No milk, milk products or composite dairy products shall be collected for the introduction or introduced into or conveyed within the municipal area for purposes of sale or distribution by means of a vehicle unless the requirements of the succeeding subsections have been complied with.
 - (2) (a) Every person who transports or causes to be transported milk which

is to be introduced into the municipal area shall apply to the Council for written authority to do so in respect of each vehicle used or to be used.

- (b) Approval by the Council of any milk tanker, feeder milk tanker and milk transfer depot shall be a condition precedent to the issue of such authority.
 - (c) Only milk produced on a dairy farm in respect of which a control permit has been issued shall be transported in such milk tanker or feeder milk tanker.
 - (d) Such authority may be cancelled or suspended should the holder thereof fail to comply with the requirements of these by-laws.
- (3) Every vehicle in which milk, any milk product or composite dairy product is conveyed shall at all times be maintained in a clean and sanitary condition and in good repair and shall carry in a conspicuous position on its exterior in letters not less than 80 mm in height, the name or trade-name and address of the milk or milk-transportation undertaking in connection with which it is used.
- (4) All milk or milk products awaiting collection for transport shall be adequately protected from the weather and the direct rays of the sun.
- (5) (a) The driver or person in control of any vehicle in which milk, any milk product or composite dairy product is conveyed shall take all reasonable measures to protect the same from contamination and to protect it or its containers from avoidable exposure to the direct rays of the sun when the vehicle is stationary or in motion or when the milk, milk product or composite dairy product has been unloaded for collection by another vehicle.
- (b) Except in an emergency, no milk other than milk in a milk tanker shall be received for processing by a dairy between 10h00 and 22h00.
- (6) All persons concerned in the handling of milk, any milk product or composite dairy product shall be provided with apparel complying with the requirements of section 11(1).
- (7) Every vehicle used for the conveyance of milk, any milk product or composite dairy product shall be provided with space for all persons employed in connection with the conveyance for whom no accommodation is available in the driver's cab.
- (8) No vehicle, cycle, carrier, crate or any container used for the conveyance of milk, any milk product or composite dairy product shall be used for any other save an approved purpose.
- (9) No person referred to in this section shall stand, sit or recline, and no person shall permit such a person to stand, sit or recline, on or against a milk can or any other milk container even if empty.
- (10) No goods except those which are permitted to be handled in a dairy in terms of the provisions of section 33(4) or animal shall be conveyed on a vehicle while it is being used to convey milk, any milk product or composite dairy product or any appliance used in connection therewith whether or not it contains any milk, milk product or composite dairy product.
- (11) Every vehicle in which milk, any milk product or composite dairy product is being conveyed for sale or distribution shall be driven to its destination by the

shortest practicable route and the journey shall be completed as quickly as possible and without any unnecessary or unnecessarily prolonged interruption.

- (12) No milk, milk product or composite dairy product shall be conveyed or delivered in the municipal area otherwise than in a vehicle: -
- (a) which bears in a conspicuous position on its exterior in clearly legible lettering and figures either the name or the trade name and address of the registered owner thereof, or of the business in connection with which it is being operated;
 - (b) maintained in a clean and tidy condition at all times; and
 - (c) provided with an approved heat resisting cover to preclude the direct insulation of its contents.
- (13) No milk, milk product or composite dairy product from a dairy or milk shop shall be conveyed or delivered in the municipal area otherwise than in approved containers, adequately sealed containers or adequately over capped bottles, which said containers or bottles shall be clearly and permanently marked in letters not less than 13 mm high with the name and address of the dairy from which the milk has been despatched.
- (14) This section shall not apply to the conveyance for domestic purposes by the purchaser thereof of milk not intended for sale.

PART V

INSPECTIONS, TESTS AND MEDICAL EXAMINATIONS

INSPECTIONS

16. (1) The medical officer of health, a veterinarian, a health officer or other authorised officer may, for any purpose connected with the carrying out of these by-laws, at all reasonable times and without previous notice enter any premises on which he has reason to believe that the business of a dairy farm, a milk transfer depot, dairy, a milk shop or a milk purveyor is being carried on or a cowshed exists or is being erected and make such enquiries and carry out such inspection as he thinks fit.
- (2) Every person employed or engaged in the work carried on, on premises entered by an officer or other person in terms of subsection (1) shall give such officer or person all the assistance reasonable required by him, and no person shall obstruct him in the performance of his duties or supply him with any false or incomplete information or withhold from him any material fact.
- (3) Such officer or person may require any appliance which he considers dirty or unfit for use in the handling of milk, milk products or composite dairy products forthwith to be cleaned in his presence and may, if it is movable, seize, carry away and detain such appliance for the purpose of producing it in evidence.

MEDICAL FITNESS OF PERSONS

17. (1) For the purpose of ascertaining whether any person herein mentioned is suffering from any infectious or contagious disease or from any complaint or disability rendering him unfit to be engaged in such work, the medical officer of health or other approved medical practitioner may medically examine any person: -

- (a) employed or engaged in or connected with work: -
 - (i) carried on in the municipal area on the premises of any dairy farm, dairy, milk shop or milk purveyor; or
 - (ii) carried on in connection with any cowshed; or
 - (iii) carried on in any place whatever in the said area where milk or any milk product is kept, produced or handled; or
 - (iv) carried on outside the municipal area on any premises in respect of which a control permit is required; or
 - (b) resident on any such premises as aforesaid.
- (2) Every person who, on the municipal area, carries on the business of a dairy farm, a dairy, a milk shop or a milk purveyor or owns or controls a cowshed or any other premises or place where; milk or any milk product is handled or kept and every other person mentioned in subsection (1) shall, when required by the medical officer of health to do so, submit himself to such medical examination as the medical officer of health may direct and to such tests as he may consider necessary for the purpose of ascertaining whether that person is a carrier of any infectious or contagious disease.
 - (3) No person shall, in the medical area, employ any person who to his knowledge has refused or failed to submit himself to examination in terms of this section on the premises of a dairy farm, a dairy, a milk shop or a milk purveyor or in connection with a cowshed or any other premises or place where milk, any milk product or composite dairy product is handled or kept.
 - (4) Without prejudice to the foregoing provisions of this section, any person connected with or whose employment on any premises brings him into contact with the handling of pasteurized or sterilized milk or milk products or with containers or other equipment used in connection therewith shall, prior to becoming so connected or commencing such employment and thereafter whenever and wherever required to do so by the medical officer of health, submit himself to examination by an approved medical practitioner and undergo such tests and permit the taking of such laboratory specimens as the said medical practitioner may require.
 - (5) Every person referred to in subsection (4) shall submit himself to a further medical examination whenever he has, in terms of the relative subsection been absent from duty on account of illness for a period exceeding fourteen days.
 - (6) The medical officer of health may at any time, if he deems it necessary for the protection of the public health to do so, require any person referred to in this section to undergo such further medical examination or tests as he may direct.
 - (7) No person so examined or tested shall, so long as the results of such examination or tests are considered by the medical officer of health or any approved medical practitioner to justify it, be engaged in or connected with activities of the kind referred to in this section.
 - (8) All costs occasioned by any examination or test carried out in terms of this section shall be borne by the employer of that person examined or tested.
 - (9) The owner or the person in control of: -

- (a) Premises in respect of which a control permit is required in terms of section 3 and at which any milk, milk product or composite dairy product is produced; or
 - (b) a dairy or milk shop where any pasteurized or sterilized milk or any milk product or composite dairy product is sold; or
 - (c) premises where milk is pasteurized or sterilized, shall ensure that the person referred to in this section comply with the requirements hereof.
- (10) When any person reports for a medical examination in terms of subsection (4), (5) and (6) the owner or person in control of the premises where such person is employed shall furnish the medical officer of health with the name, address and identity number of any person together with such other particulars or means of identification as the medical officer may require.
- (11) The owner or person in control of premises as mentioned in subsection 99) shall enter the following particulars in an approved register;
- (a) The name, address and identity number of every person employed on the premises.
 - (b) The date when he was first employed.
 - (c) The dates of medical examinations and tests undergone by him.
 - (d) Details of medical examinations and results of tests, dates of any sick leave and the dates and details of all infectious or contagious diseases suffered by any employee or worker on the premises.
- (12) If premises referred to in subsection (9) are not connected to a sewer, the medical officer of health may at any time require any person resident on the premises to undergo the medical examination and tests prescribed in terms of this section.
- (13) No person who is or is suspected of being a carrier of typhoid or any other infectious disease communicable through milk shall be employed at premises referred to in subsection (9).
- (14) If any person employed at premises referred to in subsection (9) is absent from work by reason of any notifiable or infectious disease for a period in excess of seven days, the owner or person in control of the premises shall immediately thereafter notify the nature of such disease to the medical officer of health, who shall require such employee to submit himself for further medical examination.
- (15) Every person carrying on the business of a dairy farm, dairy, milk shop or milk purveyor or using a cowshed or milking parlour shall use all reasonable diligence to keep himself informed of the nature of any illness suffered by any of his employees or occurring in any house in which any of them resides, and to ascertain whether any of them is a carrier of an infectious or contagious disease.
- (16) No person shall permit any other person: -
- (a) suffering from any contagious or infectious disease; or
 - (b) who is living in a house in which any person is so suffering; or

- (c) who has recently been in contact with a person so suffering; or
- (d) who is a carrier of such a disease,

to take part whatsoever in, or be in any way physically associated with the production or handling of milk, milk products or composite dairy products or of containers used or intended to be used for these commodities even if empty, unless and until a medical certificate has been produced by that person stating that he is no longer a source of danger.

(17) No person who knows: -

- (a) that he is suffering from or is a carrier of any infectious or contagious disease; or
- (b) that he has recently been in contact with any person who is so suffering or is such a carrier; or
- (c) that he is living in any house in which there is such a person as aforesaid;

shall take any part whatsoever in or be in any way physically associated with the handling of milk, milk products or composite dairy products or containers used or intended to be used for these commodities, even if empty, until a medical certificate in accordance with subsection (2) has been produced.

- (18) Any person who knows or has reason to suspect the existence of any fact mentioned in subsection (16) or (17) shall forthwith make a full report of all the circumstances to the medical officer of health.
- (19) Any person charged with contravening any provision of this section shall, unless and until the contrary is proved, be deemed to have had knowledge of all the relevant facts.

INFORMATION AND SAMPLES

- 18. (1) Any person carrying on the business of a dairy farm, dairy, milk shop or milk purveyor or any owner or person in charge of a milk tanker or milk transfer depot shall, when required to do so by the medical officer of health, a veterinarian, health officer or other authorized officer employed by the Council, give him full, detailed and accurate information in regard to any persons employed by him or any matter whatsoever concerning any milk, milk products or composite dairy products which have been, are being or are proposed or likely to be handled in the course of that business and concerning any appliance or other article used or proposed to be used in connection with such handling.
- (2) Without prejudice to the generality of the provisions of subsection (1), whenever it appears to the medical officer of health that an outbreak or spread of infectious or contagious disease within the municipal area is attributable to milk, any milk product or composite dairy product sold by any person personally or in the course of his business, such person shall, if and so far as directed to do so by the medical officer of health, forthwith: -
 - (a) produce or deliver for inspection all invoices, accounts, books and other documents relating to any person employed by him or the source and supply of such milk, milk products or composite dairy products; and

- (b) furnish a complete list of the full names and addresses of the customers or persons supplied by him with milk, any milk product or composite dairy product during such period as may be specified by the medical officer of health and of the persons from whom milk, any milk product or composite dairy product supplied by him was obtained during the period aforesaid.
- (3) For the purpose of these by-laws any officer or person referred to in subsection (1) may, on tendering the appropriate price, demand from any person in possession of milk, milk products or composite dairy products intended for sale to the public a sample or samples thereof.
- (4) No person to whom a demand is made in terms of subsection (3) shall refuse or omit then and there to supply a sample.
- (5) Samples shall be taken and handled in a manner substantially in accordance with rule 2(9) of the Code.

PART VI

STANDARDS FOR MILK, MILK PRODUCTS AND COMPOSITE DAIRY PRODUCTS

GENERAL

- 19. (1) No person shall apply any description, which is false or misleading to any kind of milk, milk product or composite dairy product.
- (2) No person shall introduce in to the municipal area or sell, supply or store any kind of milk, milk product or composite dairy product therein: -
 - (a) containing any foreign matter which is visible to the naked eye or which can be detected by straining through a filter wad or disc; or
 - (b) containing any unwholesome substance; or
 - (c) containing any substance or antibiotic not naturally occurring in milk, except as provided for in the Foodstuffs, Cosmetics and Disinfectants Act, 1972, and the regulations thereunder; or
 - (d) containing any viable pathogenic organisms, mastitis producing organisms or inflammatory products or is otherwise, for any reason, unfit for human consumption; or
 - (e) which does not comply with the standards laid down in the foodstuffs, Cosmetics and Disinfectants Act, 1972, and the regulations thereunder.
- (3) (a) No person, whether or not carrying on or in any way engaged in the business of a dairy farm shall sell or supply or have in his possession for sale or supply any raw milk which: -
 - (i) when subjected to the methylene-blue reduction test described in rule 3 of the Code, decolourises methylene-blue in less than 4 hours; or
 - (ii) when subjected to the resazurin reduction test described in rule 4 of the Code gives a Lovibond disc reading of less than 2 after 2 hours;

- (iii) on application of the modified Eijkmann test as described in rule 5 of the Code is found to contain any *Escherichia coli* type 1 bacteria (faecal coli) in 0,01 ml.
- (b) For the purpose of determining whether milk complies with the requirements contained in subparagraphs (i), (ii) and (iii) of paragraph (a) the tests described in the Code shall be applied and shall be conclusive.
- (c) Milk as described in this subsection shall be dealt with as prescribed in section 32(2).

PASTEURIZED MILK, MILK PRODUCTS AND COMPOSITE DAIRY PRODUCTS

20. No person shall sell or supply: -
- (a) any pasteurized milk or cream which: -
 - (i) has been shown by the Aschaffenburg and Mullen phosphatase test described in rule 6 of the Code to contain 10 micrograms or more p-nitrophenol per millilitre; or
 - (ii) decolourises methylene-blue in less than two hours after the sample has been incubated at 18° C plus-minus 0,5° C for 18 hours as described in rules 7 and 8 of the Code; or
 - (b) any pasteurized milk, cream, milk product or composite dairy product which: -
 - (i) on application of the modified Eijkmann test described in rule 5 of the Code is found to contain any *Escherichia coli* type 1 bacteria (faecal coli) in 1 ml of fluid or 1 g of semi-solid product; or
 - (ii) on application of the test described in rule 10 of the Code is found to contain the case of pasteurized milk or cream more than 10 and in the case of milk products or composite dairy products more than 100 coliform bacteria per millilitre of fluid or gram of semi-solid product; or
 - (iii) contains any viable pathogenic organisms,

STERILIZED MILK

21. No person shall sell or supply as sterilized milk any milk, which contains viable organisms.

ACCEPTANCE OF REPORTS

22. For the purpose of the tests described in the Code the reports issued by a recognized dairy scientist, pathologist, microbiologist, biochemist or registered medical technologist, or by a person who, by virtue of his training and experience in the field of dairy science, pathology, microbiology or biochemistry is qualified to carry out those tests, shall be accepted.

PART VII

PRODUCTION OF MILK

GENERAL

23. (1) Premises used as a dairy farm or on which the activities of a dairy farm are

carried on shall include, in addition to a cowshed or milking parlour, or milk room, milk room equipment, wash-up room, wash-up room equipment, a store-room for appliances and a change-room and latrines for employees.

- (2) Unless otherwise approved by the medical officer of health, no compressor, condenser, vacuum or water pump, generator, alternator, motor or engine of a refrigeration unit shall be installed in any cowshed, milking parlour or in any of the rooms referred to in subsection (1) or in a receiving room.
- (3) No livestock other than bovines shall be permitted in cowsheds or milking parlours at any time and during milking time no cows in excess of the number of stalls provided or laid down in the permit shall be present therein.
- (4) Every cowshed or milking parlour shall at all times be maintained in a clean and sanitary state and in good repair and no operation causing dust shall be performed therein during the 15 minutes preceding or during milking operations.
- (5) Within an hour after completion of a milking session in a cowshed and as often as needs be in a milking parlour, all manure shall be removed, the premises efficiently cleaned and the floor completely and effectively washed down.
- (6) After the milking in a cowshed or each two consecutive batches of cows and as often as need be in the case of a milking parlour the floor shall be completely and effectively washed down.
- (7) Adequate and effective equipment and materials for the eradication therefrom and for the prevention of the breeding therein of insects, rodents and other vermin shall, as far as may be necessary be provided, maintained and used on all premises where milk is handled.
- (8) No animal foodstuffs or other material or article not pertaining to the production of milk shall be stored in a cowshed or milking parlour.

COWSHEDS

24. (1) Save as excepted in section 1(2), every cowshed on a dairy farm in respect of which a control permit is required in terms of section 2 shall comply with the requirements of this section.
- (2) No cowshed shall communicate directly with any engine-room store-room or change-room and no part of it shall be closer than 15 m to any dwelling, stable, cattle kraal, calf pen, poultry house or run, aviary, public street or sanitary lane, or to the boundary of any adjoining stand, lot, erf or other piece of land not under the same ownership or occupation as the cowshed, or closer than 140 m to any pigsty or land on which pigs are kept or allowed to run.
- (3) Every cowshed shall contain stalls for at least 10 cows separated by means of partitions constructed of metal tubing at least 40 mm in diameter into single stalls of a width of between 1 m and 1,2 m or double stalls 2,2 m wide: Provided that where headlocks are installed at not less than 1 m centres, no partitions shall be required.
- (4) Where a cowshed is built to accommodate more than one row of cows and stalls in two adjacent rows are opposite one another so that cows stand head to head, the distance between the innermost point of each stall and the innermost point of the stall opposite to it, shall be not less than 1 m unless

the two rows of stalls are divided throughout their length by a brick or cement concrete partition at least 1,5 m high.

- (5) Cowsheds erected after the promulgation of these by-laws to accommodate two parallel rows of cows n stalls as described in subsection (4) shall have an internal wall to wall width, excluding provision for feeding passages which shall be not less than 1 m wide, of not less than 8,5 m and doorways by which cows enter or leave the cowshed of not less than 2 m wide and 2,1 m high, and shall be fitted with full solid doors.
- (6) Cowsheds accommodating only one row of cows shall have an internal wall to wall width, excluding provision for a feeding passage which shall be not less than 1 m wide, of not less than 4,5 m and doorways by which cows enter or leave the cowshed of not less than 1,4 m and 2,1 m high, and shall be fitted with a full solid door.
- (7) Where mangers are fitted the following provisions shall apply:-
 - (a) Mangers shall have an internal width of not less than 700 mm and a depth of between 200 mm and 250 mm.
 - (b) The frontal wall shall be between 500 mm and 600 mm in height.
 - (c) Walls separating feeding passages (if provided) from the manger shall not be less than 1,2 m in height from the floor level of the stall.
 - (d) All internal angles shall be well-rounded.
- (8) The floor of a cowshed shall comply with the following provisions: -
 - (a) The distance from the frontal wall of the manger to the kerb forming the edge of the passage shall be between 2 m and 2,3 m and the floor shall be laid with a fall of 1 in 40 measured from the frontal wall to the lowest portion of the kerb, which shall be between 75 mm and 100 mm in height.
 - (b) In the case of a cowshed erected in terms of the provisions of subsections (4) and (5), there shall be a fall of 1 in 40 in relation to half the width of the passage in the direction of each kerb, and in the case of a cowshed erected in terms of the provisions of subsection (6), the floor of every passage shall, in relation to its width, have a fall of 1 in 40 to the kerb.
 - (c) The longitudinal fall of the floor shall be 1 in 70 towards a gully or catchpit as provided in subsection (14).
- (9) Stalls and mangers shall be so constructed as to be readily and completely cleanable and mangers shall, in addition, be so constructed and arranged that no fodder can accumulate underneath or behind them.
- (10) All the walls measured from the stall floor at the frontal wall of the manger shall be at least 2,7 m high except where the roof has a pitch of less than twenty-five degrees in which case the height shall be at least 3 m.
- (11) The roof shall be made of corrugated iron, asbestos, slate, tiles, or other approved material.
- (12) Except where glazed, glass or light-coloured hard burnt face bricks or glazed tiles are used, the inside surfaces of external walls and all internal walls shall be plastered with cement plaster, the surface brought to a smooth finish and

painted with a light-coloured washable paint or covered with an effective plastic finish.

- (13) All floors shall be laid on an effective foundation of hard core not less than 100 mm thick and constructed of a solid and impervious durable cement-concrete or other approved solid easily cleanable and durable material brought to a smooth surface and properly drained as provided in subsection (8).
- (14) All effluent from the floor of a cowshed shall discharge into a trapped gully placed outside the building and connected to a sewer and where no sewer is available the discharge of waste water shall be over and into a cement-lined catch pit of adequate size, situated outside the building or by means of an approved channel of not less than 300 mm wide or pipe of a minimum internal diameter of 200 mm onto an approved disposal site. The minimum length of such pipe or channel shall be 15 m.
- (15) No cow shall be allowed inside a cowshed or milking parlour otherwise than in a stall provided for her in accordance with the provisions of this section.
- (16) The following requirements shall be observed in regard to the windows and lighting:
 - (a) The cowshed shall be so constructed as to provide an unobstructed aperture of at least 0,3 m² which may be fitted with a window capable of being opened to the full extent of the aperture per cow intended to be accommodated therein.
 - (b) The bottom of the said aperture shall be not less than 1,8 m from the floor and its sill shall slope downwards and outwards at an angle of not less than forty-five degrees.
 - (c) Adequate light shall be provided for at all working areas in the cowshed at all times.
- (17) Each cowshed shall be provided with an adequate piped supply of wholesome water, free from the possibility of pollution, which is readily accessible through inside taps of which there shall be one for each 6 m of the length of the cowshed and to which a hose can be attached.
- (18) An area of not less than 14 m² paved with solid and impervious cement-concrete or other approved material extending to a distance of 600 mm on each side of the cowshed entrance shall be provided immediately outside and adjoining every entrance used by cows, or similar cattle race 2 m in width and a minimum of 7,5 m in length shall be provided.
- (19) Where a milking machine is installed the provisions of section 27 shall be complied with where applicable.

MILKING PARLOURS

25. (1) Save as excepted in section 1(2), every milking parlour on a dairy farm in respect of which a control permit is required in terms of section 2, shall comply with the requirements of this section.
- (2) The provisions of this section and the requirements also of section 24(2), (9), (11), (13) and (16) (c) in regard to cowsheds shall apply to all milking parlours.
- (3) Except in an emergency no cow shall be milked in a milking parlour otherwise

than by mechanical means.

- (4) No operation other than the administration of concentrates and the production of milk shall be conducted in a milking parlour.
- (5) The number of milking machines or milking machine units provided in a milking parlour should be not less than half the number of cows for which standing accommodation is provided therein.
- (6) No building or separate part of a building may be used as a milking parlour, unless it has been constructed and laid out in accordance with plans submitted to and approved by the medical officer of health.
- (7) The following requirements shall be complied with in respect of every milking parlour;
 - (a) It shall be at least 2,7 m high measured for the floor to the lowest point of the roof or ceiling: Provided that the height measured as aforesaid above a raised standing platform provided for the milking of cows shall be not less than 2,3 m.
 - (b) A platform referred to in paragraph (a), if higher than 300 mm shall be provided with a kerb of a minimum height of 50 mm to prevent the escape of liquids to that part of the floor of the milking parlour on which milkers stand.
 - (c) Drainage of effluent from the standing platform for cows and from the floor of a milking parlour shall be effected by means of a fall over the width thereof of 1 in 400 and longitudinal fall 1 in 70 towards a gully, catch pit or disposal site prescribed in section 24(14).
 - (d) In the absence of a ceiling the walls of all rooms in which milk or milk appliances are handled shall extend up to the roof.
 - (e) The ceiling or where there is no ceiling, the roof shall have a light-coloured, washable under-surface and be so constructed that it prevents the entry into the room of dust from above.
 - (f) Internal walls shall be of a light colour, finish from floor to ceiling or to the lower part of the roof in smooth, impervious cement-plaster, smooth, hard-burnt, light-coloured face bricks, tiles or some other approved material having similar properties and shall be of such construction and surface as will permit of and withstand frequent and thorough cleaning and washing.
 - (g) All junctions between floors and walls shall be coved, and all doorways to and from the milking parlour shall be fitted with full solid doors.
 - (h) The windows shall be fitted with glass, capable of being opened to the extent of 50 % of the window aperture and shall have an aggregate area equal to at least 15 % of the total floor area. They shall be kept unobstructed both externally and internally and shall be so placed that all parts of the milking parlour are adequately lighted in daytime.
 - (i) External walls shall be provided with two standard sized air-bricks for every cow, so placed as to provide effective cross-ventilation of the milking parlour.

- (j) At each milking point within the milking parlour a tap with a wholesome water supply shall be provided.
- (k) Where a milking parlour is divided into stalls the dividing partitions shall be of metal tubing at least 40 mm in diameter.
- (l) An operating floor space for milkers of a minimum width of 1,5 m along the full length of the stalls shall be provided.

MILKING PROCEDURE

- 26.
- (1) No cow shall be milked elsewhere than in a cowshed or a milking parlour complying with the provisions of these by-laws.
 - (2) Before commencing milking and immediately after every interruption thereof likely to result in the contamination of his hands, and in particular after every visit to a latrine or urinal, a milker shall thoroughly wash and clean and scrub his hands and finger nails with a nail-brush and an approved germicidal soap and water.
 - (3) Every cow, which is being milked, shall be cleaned at least once a day or more frequently if necessary.
 - (4) The udder and teats of every cow shall be washed with running water or an approved bactericidal solution and dried immediately before it is milked, and adequate steps shall be taken to prevent the contamination of milk and the bactericidal solution, where used, by urine, faecal or other noxious matter.
 - (5) At every milking the foremilk shall be examined for evidence of mastitis by passing the first stream of milk from each teat into a strip cup or other approved appliance and where the examination discloses evidence of mastitis or any other condition mentioned in section 28(5) the provisions of that section shall be complied with.
 - (6) The first stream of milk from each teat shall be discarded in such a manner as to avoid risk of infection.
 - (7) Only approved lubricant shall be used by a milker for hand milking. All such lubricants shall be kept in containers externally and internally free from extraneous matter or dirt and provided with closely-fitting lids, which shall be replaced firmly immediately after lubricant has been taken from the container.
 - (8) Milk shall, immediately after milking, be strained through a clean strainer of approved single use type.
 - (9) Milk shall, immediately after its straining, be removed from the cowshed or milking parlour to the milk room or receiving room, where provided.
 - (10) On its arrival in the milk room the milk shall immediately be cooled to a temperature not exceeding 7° C and kept at that temperature until its collection for transport.
 - (11) Milking stools shall be so constructed and of such material that they can be effectively cleaned and shall be kept in a clean and sanitary condition.
 - (12) Cow hobbles of the chain type only shall be used and they shall be kept in a clean and sanitary condition.
 - (13) No milking pail or milk can shall be used for any purpose whatsoever other than the collection or conveyance of milk during milking operations.

- (14) Milk from a cow so diseased that in the opinion of the medial officer of health, it is unfit for human consumption by reason of such disease, shall be destroyed immediately after each milking and any milk which, to the knowledge of the owner or person in control of premises, is derived from an unhealthy cow, shall forthwith be destroyed.

MILKING MACHINES

27. (1) Every milking machine or milking apparatus installed shall comply with the following requirements:
- (a) Vacuum-pipe lines shall be of galvanised steel or other approved material of a non-corrodible nature with a smooth internal surface.
 - (b) A vacuum tank or trap of adequate capacity shall be installed at a point not more than 2,5 m from the vacuum pump and the vacuum-pipe line shall, where practicable have an adequate and even fall enabling it to drain to the vacuum tank or trap by gravity: Provided that the pipe-line may be drained as aforesaid towards its other end if a convenient means is provided for the complete removal of moisture therefrom.
 - (c) The connection between the vacuum tank or trap and the vacuum pipe shall be so constructed and arranged that it can be easily dismantled and thoroughly cleaned.
- (2) A releaser incorporated in a milking machine shall be situated in an approved milk room unless it is of a closed type in which case it may be situated in the milking parlour.
- (3) That part of the milk line consisting of pipes along which milk passes from the cow, shall be of stainless steel or other approved non-corrodible material with a smooth internal surface. The main line shall have an internal diameter of not less than 25 mm and shall consist of detachable sections connected to one another by means of approved non-corrodible couplings so fitted and installed that they can be easily dismantled and thoroughly cleaned.
- (4) A change of direction in the flow of milk in a milk line shall be effected by means of a pipe or other fitting of approved type capable of being easily and effectively cleaned.
- (5) All tubing used in connection with apparatus associated with mechanical milking shall be arranged in detachable section so fitted and installed that they can be easily dismantled and thoroughly cleaned.
- (6) Releasers shall be of stainless steel or similar approved and non-corrodible material, and both releasers and pumps shall be so constructed and fitted that they can be easily removed or dismantled and thoroughly cleaned.
- (7) No rubber tubing or other fittings, which are cracked, perished or otherwise defective shall be used.
- (8) Every part of a milking machine or apparatus including the teat cups shall be cleaned and disinfected as prescribed in section 13, and shall, until used again, be stored in the milk room or some other approved place in such a manner that it cannot be contaminated.

- (9) Every teat cup shall, before being transferred from one cow to another, be thoroughly rinsed first in clean cold water and then in approved bactericidal solution or subjected to some other approved method of cleaning.

HEALTH OF DAIRY STOCK – GENERAL

28. (1) The medical officer of health, any veterinarian, any health-officer or other authorized officer employed by the Council may: -
- (a) inspect any dairy stock and for that purpose enter upon any premises or land;
 - (b) by at least 24 hours written or verbal notice require a person who owns or keeps dairy stock to assemble it upon his premises for the purpose of inspection and if necessary, examination and testing by a veterinarian;
 - (c) collect and remove any milk or other specimen, which he may require for the purpose of carrying out any test.
- (2) The owner or person in control of a dairy farm shall besides complying with any notice served in terms of subsection (1) (b), permit to be carried out and render all assistance reasonably necessary to enable to be carried out at such intervals as the Council, the medical officer of health, veterinarian or other officer therein referred to may require, any such tests or examinations for disease of dairy stock or other animals as may be required.
- (3) Every such test or examination shall be carried out by a veterinarian according to the methods laid down by him.
- (4) Any animal shown by such tests or examination to be diseased shall be dealt with in accordance with the provisions of subsections (5) to (9) inclusive for such period as the Council, medical officer of health, veterinarian or other officer may determine or in such other manner as he may direct.
- (5) Any animal shall be removed from the herd immediately and confined within an approved quarantine area if it suffers or is suspected to be suffering from any of the following conditions:
- (a) Mastitis.
 - (b) Substantial induration of the udder.
 - (c) Secretion of bloody, stringy or otherwise abnormal milk.
 - (d) Tuberculosis.
 - (e) Salmonellosis or any form of persistent diarrhoea.
 - (f) Abortion.
 - (g) Retained placenta.
 - (h) Septic metritis.
 - (i) Septic pododermatitis.
 - (j) Generalised mange.
 - (k) Severe tick infestation.

- (l) Emaciation.
 - (m) Acute febrile diseases other than the above-mentioned conditions including anthrax, anaplasmosis (gall-sickness), babesiosis (red-water), ephemeral fever (three-day stiff sickness) and lumpy skin disease.
 - (n) Any other disease which, owing to its contagious or infectious nature or to the emergency of the occasion, may be added to this list from time to time by the medical officer of health.
 - (o) Any other condition, including in particular the presence of open or septic wounds and abscesses rendering possible the contamination of milk, milking appliances or persons working with the herd.
- (6) Inoculations against the disease hereinafter mentioned shall be carried out at the time specified and according to the methods laid down by a veterinarian, and the owner or occupier of the premises at which milk intended for consumption in the municipal area is produced shall submit proof of such inoculation, if called upon by the medical officer of health to do so.
- (7) The inoculations required in terms of subsection (6) shall be as follows:
- (a) All cattle shall be inoculated against anthrax with an approved vaccine once in every 12 months and at such time during that period as may be fixed by any veterinarian acting on the Council's behalf.
 - (b) All heifer calves between the ages of 3 and 10 months shall be inoculated against brucellosis with strain 19 brucella abortus vaccine.
 - (c) All female goats which may come into contact with dairy stock shall, between the ages of 4 and 6 months, be inoculated against brucellosis with strain Elberg Rev. 1 brucella vaccine.
 - (d) Any other inoculation against disease shall as a matter either of emergency or of general practice, be carried out as and when the medical officer of health may prescribe.
- (8) The medical officer of health shall forthwith be informed of any infectious or contagious disease contracted by any animal kept on the premises on which milk is handled or stored, and he shall also be so informed whenever any such animal has come into contact with an animal suffering or suspected to be suffering from any infectious or contagious disease or which is or should be in quarantine on account of such disease.
- (9) All such requirements for disinfecting and the disinfestation of premises and preventing the spread of any disease to which animals are susceptible as the medical office of health may make known shall be complied with.

PART VIII

FARM BULK TANKS, MILK TANKERS AND MILK TRANSFER DEPOTS

FARM BULK TANKS

29. (1) In the regard to their construction, situation and fittings, all farm bulk tanks shall comply with the following requirements: -
- (a) Farm bulk tanks shall comply with the requirements of section 12(1)

and (2).

- (b) The inner vessel shall be constructed of stainless steel grade AISI 304 or an equivalent specification and its inner surface shall be brought to a medium or coarse directional satin finish corresponding with the samples kept by the South African Bureau of Standards. All corners, joints or parts formed inside the tank and liable to come in contact with milk shall be so constructed as to have fillet radii of not less than 25 mm.
 - (c) All parts of the inner vessel shall drain directly to the outlet.
 - (d) The edge of the inner vessel shall extend not less than 12 mm above the surrounding portion of the tank.
- (2) All possible milk contact surfaces shall be visible, easily accessible and readily cleanable.
 - (3) Every farm bulk tank shall be provided with a lid or lids so as effectively to protect the contents from contamination.
 - (4) Any bridge shall not exceed 700 mm in width and such bridge and attachments shall be easily cleanable, self-draining and so constructed as not to obstruct access to any portion of the tank.
 - (5)
 - (a) Every farm bulk tank shall be provided with an outlet pipe so constructed and in such a position as to be readily cleanable and to effect complete drainage.
 - (b) The end of the outlet pipe shall be covered by a screw on stainless steel cap, which effectively covers the end of the pipe.
 - (6) Every farm bulk tank shall be provided with a stainless steel agitator or agitators capable of thoroughly mixing the contents of the tank within 5 minutes after being put into operation.
 - (7)
 - (a) Every farm bulk tank shall be provided with an approved thermometer capable of indicating the temperature of the milk accurately to a margin not exceeding 2° C. Any part of the thermometer coming in contact with milk shall be encased in stainless steel, and such thermometer shall be sealed against the ingress of dust or moisture, be graduated from 0 °C to 40 °C, have a scale indicating not more than 10 °C per 25 mm of scale length, and be graduated at 5 °C with a red mark.
 - (b) The cooling system shall be so designed as to reduce the temperature of milk to 5 °C or less within a period of 2 hours after milking and to maintain the milk at a temperature between 1 °C and 7 °C.
 - (8) After emptying and before each usage the farm bulk tank shall be cleaned in accordance with section 13.
 - (9) Every farm bulk tank shall be situated in a milk room of sufficient size to allow for 80 mm of unobstructed space on all sides and such milk room shall be fitted with either a double door or a removable window frame or adequate size so as to permit passage of the tank.

- (10) When not forming an integral part of the tank, the control panel of the tank shall be situated against the wall in the milk room as near as practicable to the exit door referred to in section 7(2)(h).
- (11) The distance from the farm bulk tank outlet to the intake of the milk tanker shall not exceed 6 m.
- (12) Direct access shall be provided to enable the milk tanker to reach the loading point and leave the premises without reversing or manoeuvring.

COLLECTION OF MILK FROM FARM BULK TANKS

- 30. (1) Any metering rod inserted into the milk shall be adequately cleaned before insertion.
- (2) (a) The pipe used for withdrawing milk from the farm bulk tank: -
 - (i) shall be made of material prescribed in and in accordance with the requirements of section 12(1) and (2);
 - (ii) shall have a length of not more than 7,5 m; and
 - (iii) shall, save where one end is connected to the pump, have each end protected against contamination by a stainless steel screw-on cap which effectively seals the opening and the thread at its ends when the pipe is not in use.
- (b) While not in use, such pipe shall be kept in a dust proof housing and protected against the heat of the sun.
- (3) The person collecting milk from a farm bulk tank shall be a person deemed by the medical officer of health to be a fit and proper person and such person shall take and handle samples from every such tank in a manner substantially in accordance with rule 2(9) of the Code.
- (10) Every person collecting farm bulk milk shall, on request, furnish the Council with a list of names and addresses of persons from whom such milk has been collected, the quantities collected separately recorded in respect of each compartment of the tanker, and deliver the samples taken in terms of subsection (3).
- (11) Save in cases of emergency, farm bulk milk shall be: -
 - (a) dispatched by the permit holder within 44 hours of production; and
 - (b) delivered to the dairy within 16 hours of collection.

MILK TANKERS

- 31. (1) In regard to their construction and fittings all milk tankers shall comply with the following requirements:
 - (a) The milk tank shall comply with the provisions of section 12(1) and (2) and shall be of circular or elliptical cross section constructed in separate non-interleading compartments not exceeding 5 000 Litres each, without baffles or surge plates, and each compartment shall be self-draining to a separate pipe-line linked to a joint pipe-line connected with the pump: Provided that this requirement shall not apply to milk tanks in use or constructed prior to the date of publication hereof.

- (b) The inner vessel of the milk tank shall be constructed of stainless steel complying with grade AISI 304 or an equivalent specification, and its inner surface shall be brought to a medium or coarse directional satin finish corresponding with the samples kept by the South African Bureau of Standards. All corners, joints or part formed inside the tank and liable to come in contact with milk shall be so constructed as to have a fillet radii of not less than 25 mm.
 - (c) Baffles or surge plates, where fitted to milk tanks as contemplated in the proviso to paragraph (a), shall be so constructed as to be easily cleanable.
 - (d) All fittings attached to the milk tank shall be easily accessible, removable and capable of being dismantled for cleaning and sterilizing, and any bend in an outlet pipe shall have a mean radius of not less than 75 mm.
 - (e) The milk tank shall have a manhole of circular construction, having a minimum diameter of 450 mm and extending a minimum of 70 mm above the external sheath. It shall be provided with a screw-on lid so as to protect effectively the contents against contamination. A dust cover shall be provided to cover each manhole lid.
 - (f) The milk tank shall be so insulated as to ensure that all milk delivered therefrom shall be of a temperature not exceeding 9 °C.
 - (g) Any outlet pipe, which may contain milk, shall be adequately insulated.
 - (h) Each compartment shall be fitted with an adequate number of detachable spray devices so arranged as to clean adequately the whole of the interior of the tank and baffles.
 - (i) All pipes provided for the cleaning of the milk tank shall be situated on the outside of the milk tank and the ends of such pipes shall be covered by screw-on stainless steel caps, which effectively cover the end of the pipes.
 - (j) A fixed ladder and a skid-proof catwalk to give adequate access to each manhole, shall be provided.
 - (k) The mechanical equipment and controls of the tank shall be housed in a lockable, dust-protected compartment of such shape and size as to permit easy inspection, maintenance and operation of such equipment and controls.
- (2) (a) Every milk tanker shall be equipped with an insulated dust-proof container adequate for the number of samples collected in terms of section 30(3) and so constructed and equipped as to maintain such samples at a temperature of not exceeding 7 °C.
 - (b) All outlets from and pump inlets to the milk tank shall be fitted with stainless steel screw-on caps so as effectively to protect the thread and opening from contamination.
- (3) (a) Where a vacuum-pressure system is used for the loading and discharge of milk into and out of the tank, the air compressor shall provide oil-free, efficiently filtered air and the connecting pipe work

shall be fitted with a device to prevent the return of milk to the compressor or exhauster.

- (b) Unless the milk is discharged into a single receptacle, the contents of the milk tank shall, immediately proper to discharge, be thoroughly stirred by means of an approved mechanical device or filtered compressed air provided by the permit holder in respect of the receiving dairy.
- (4) (a) The permit holder in respect of the dairy receiving the milk shall provide approved facilities including a washing bay and material for the cleaning of milk tankers as provide in paragraph (b).
- (c) Immediately after each discharge of milk the person in charge of the milk tankers shall: -
 - (i) clean the milk contact surfaces of the interior of each milk tank in accordance with the provision of section 13; and
 - (ii) flush down the outside of the milk tanker with water and where necessary wash such milk tanker.
- (5) The medical officer of health shall be entitled to inspect any milk tanker or equipment used in the handling of milk or milk products and to take samples for the purpose of bacteriological examination from any surface of such vehicle or equipment which comes into contact with the milk or milk product.
- (6) Samples as contemplated in subsection (5) shall be taken and handled in a manner substantially in accordance with those as described by rule 2(9) (c) of the Code.
- (7) The preparation of equipment for taking samples in terms of the provisions of subsection (5) shall be carried out as prescribed by rule 11 of the Code.
- (8) The following requirements shall be complied with in respect of samples taken in terms of the provisions of subsection (5):
 - (a) *Escherichia coli* type 1 bacteria (faecal coli) shall not be present on 100 cm² of the surface area when tested in accordance with the modified Eijkmann test as described in rule 5 of the Code; or
 - (b) the Standard Agar Plate Count as determined by the method described in rule 9 of the Code shall not exceed 1 500 per 100 cm² of the surface area tested.

MILK TRANSFER DEPOTS

- 31A. (1) No person shall conduct a milk transfer depot unless: -
 - (a) such premises have been approved by the Council;
 - (b) tanker washing facilities as required in terms of section 31(4)(a) are provided.
- (2) Sections 5, 10, 31(4)(b), (5), (6), (7) and (8) shall apply *mutatis mutandis* in respect of a milk transfer depot.
- (3) Save in cases of emergency, milk which is intended to be introduced into or milk within, the municipal area shall not be transferred from a milk tanker to another vehicle or container other than at an approved milk transfer depot.

PART IX

DISTRIBUTION AND SALE OF MILK

GENERAL

32. (1) After the appointed day no milk other than pasteurized or sterilized milk shall be sold or supplied and no milk product or composite dairy product shall be disposed of as aforesaid unless the milk used in the making thereof or the milk product or composite dairy product itself has been pasteurized or sterilized.
- (2) After the appointed day all milk other than pasteurized or sterilized milk, which is introduced into the municipal area, shall, immediately after its introduction, be delivered to approved premises for pasteurization or sterilization.
- (4) After the appointed day no milk product shall be introduced into or made or manufactured in the municipal area unless the milk form which it is made or manufactured is pasteurized or sterilized.
- (5) The permit required in terms of subsection (4) shall expire on the thirty-first day of December of every year and application for its renewal for the ensuing year shall be made before the first day of December prior to its expiry.
- (6) No milk, milk product or composite dairy product shall be pasteurized or sterilized elsewhere than in a dairy in respect of which a control permit has been issued in terms of section 3.
- (7) No person shall mark, label, describe, advertise or in any manner whatsoever represent or hold out: -
- (a) any milk as pasteurized or sterilized milk unless such milk has been pasteurized or sterilized on premises referred to in subsection (6); or
- (b) any milk product or composite dairy product as a pasteurized or sterilized milk product or composite dairy product unless it has been made with pasteurized or sterilized milk or has been pasteurized or sterilized during the process of manufacture.
- (8) Milk products or composite dairy products shall be produced or manufactured only on the premises on which the milk or cream from which they were derived was pasteurized or sterilized.
- (9) Milk products or composite dairy products shall only leave the premises on which they were produced or manufactured in the container in which they are to be delivered to the purchaser.
- (10) The filling of containers or receptacles with milk and the transfer of milk from one container to another may be carried out in any room where pasteurized or any milk sterilizing process takes place.

DAIRIES

33. (1) No premises shall be used as a dairy unless they comprise a wash-up room with all necessary equipment, change-rooms, a store-room, receiving room, milk room and sufficient separate water closet accommodation as prescribed

in terms of these by-laws for the different sexes and for Whites and Non-whites.

- (2) No dairy shall: -
 - (a) communicate directly with any dwelling or house, bedroom, latrine, urinal or any other shop, room or rooms in which foods are sold or stored other than goods which may be sold in a dairy or used in the manufacture of any composite dairy product; and
 - (b) at any point be within 3 m from the entrance of or any other aperture to a water-borne latrine or urinal or within 10 m of the entrance or any other aperture to a pail latrine or urinal or within 15 m from a pit privy.
- (3) The following requirements shall be complied with in respect of every room forming part of a dairy;
 - (a) The room shall be no less than 2,7 m in height.
 - (b) Inside walls shall, in regard to their construction and finish, comply with the requirements of section 7(2)(a).
 - (c) The floors shall, in regard to their construction and finish, comply with the requirements of section 7(2)(b).
 - (d) The ceiling or roof of each room shall comply with the requirements of section 7(2)(c).
 - (e) The provisions of section 7(2)(e) in regard to windows shall apply.
 - (f) The room shall be adequately cross-ventilated.
- (4) No part of the dairy shall be used for any other purpose than that of handling milk, milk products, composite dairy products, butter, eggs, cheese, ice-cream, sherbet, honey and concentrated fruit juices, sweetened concentrated fruit juices or sweetened diluted fruit juices as defined in the relevant regulations made under the Foodstuffs, Cosmetics and Disinfectants Act, 1972.
- (5) The following requirements shall be complied with in connection with fruit juices mentioned in subsection (4):
 - (a) If fruit juices are not in sealed containers, they shall be bottled or otherwise handled in premises or part thereof which are entirely separate from premises or part thereof in which milk, milk products or composite dairy products are handled if: -
 - (i) the pH of the juice is higher than 4,0; or
 - (ii) the Standard Agar Plate Count in unpreserved concentrate exceeds 10 000 per ml; or
 - (iii) the Standard Agar Plate Count in preserved concentrate exceeds 2 500 per ml.
 - (b) Unpreserved concentrate shall be pasteurized at a temperature not lower than 71 °C for not less than 15 seconds.
 - (c) The quality of the diluted single strength juice, intended for consumption shall be as follows: -

- (i) The Standard Agar Plate Count in pasteurized unpreserved juice shall not exceed 100 per ml.
 - (ii) The Standard Agar Plate Count in preserved juice shall not exceed 500 per ml.
 - (i) The pH shall not be higher than 4,0.
 - (d) The Standard Agar Plate Count in fruit juices shall be carried out by the method described in rule 9 of the Code.
 - (e) No preservative shall be added to the juices on the same premises or part thereof in which milk, milk products, or composite dairy products are handled.
 - (f) Juices shall not contain any pesticide residues or viable pathogenic organisms.
- (6) Save for the transfer of milk to a balance tank situated in a receiving room, the filling of containers or receptacles with milk and the transfer of milk from one container to another shall only be carried out in a dairy and in particular not in the receiving room or wash-up room thereof.

MILK SHOPS

34. (1) Only the following articles may be sold at a milk shop: -
- (a) Milk, milk products or composite dairy products supplied by a dairy or dairy farm in respect of which a control permit has been issued in terms of section 3;
 - (b) concentrated fruit juices, sweetened concentrated fruit juices, fruit juices, diluted fruit juices, sweetened fruit juices and sweetened diluted fruit juices as defined in the relevant regulations made under the Foodstuffs, Cosmetics and Disinfectants Act, 1972; and
 - (c) butter, eggs, cheese, ice-cream and honey.
- (2) (a) No articles referred to in subsection (1)(a) and (b) shall be sold at a milk shop otherwise than in over capped bottles or containers or in sealed containers complying with the requirements of section 35(4)(a), and no over caps or other material or machine for applying over caps or any other form of lid or cover to milk bottles or other materials or equipment for the sealing of cans or any other container similar in shape to a milk bottle shall be brought into or kept in a milk shop.
- (b) Authority may be given by the Council for the handling of sealed cans or other approved containers which have been received in a sealed condition from a dairy and which are kept sealed and are intended for distribution in this condition.
- (c) Save for the transfer from a bottle into a receptacle provided by the purchaser, no milk or milk product shall be transferred from one receptacle to another in a milk shop.
- (11) The requirements of section 7(3)(c), (f) to (g) inclusive, 11(2) to (4) inclusive, 12(8), 33(2) and (3)(a) to (f) inclusive, shall be complied with in the case of every milk shop.

- (12) The milk shop shall be provided with a store-room or area separated from the rest of the premises by a dividing wall and shall have a floor area of adequate size for the storage of all crates, but which shall in no case be less than 7 m².
- (13) Where a milk shop communicates with a yard an impervious surface covering the whole yard or at least 9 m², whichever is the smaller, shall be provided inside such yard area adjacent to the communicating door.

MILK PURVEYORS

- 35. (1) The requirements and prohibitions contained in the succeeding subsections of this section shall be observed by every milk purveyor.
- (2) No person shall carry on the trade or business of a milk purveyor in or upon any premises unless such premises are equipped with a refrigerator capable of maintaining an internal temperature of 7 °C or less and of sufficient capacity to hold all the milk usually kept there for delivery or sale in the normal course of trade.
- (3) Save for cream produced at premises in respect of which a control permit has been issued in terms of section 3 and supplied to the milk purveyor by a person permitted by the Council to do so, no milk purveyor shall receive or on his premises store, keep or possess any milk or milk product obtained elsewhere than from a dairy in respect of which a control permit has been issued or from a licensed milk shop.
- (4) No milk purveyor shall obtain or sell any milk, milk product or cream other than sterilized milk or cultured milk including yoghurt, otherwise than in intact containers which: -
 - (a) have been sealed by heat or by some other approved method and have been so made that they have no separate or detachable cover, cap or stopper of any kind which can be removed and replaced without detection;
 - (b) have been so made that access to the contents can only be obtained by opening or perforating the fabric of the containers or mutilating the can, cover or stopper;
 - (c) have been filled and sealed at a dairy or dairy farm, the owner or person in control of which is the holder of a control permit issued in terms of section 3;
 - (c) have impressed or inscribed thereon the name or trade name and the address of the dairy farm or dairy at which they were filled and sealed.
- (5) Milk purveyors shall store or keep milk, milk products or composite dairy products on their business premises in a refrigerator which maintains it at a temperature not exceeding 7 °C in the same containers, sealed and unopened, in which it was supplied to them.
- (6) No milk for consumption of a milk purveyor's premises shall be transferred from any container as described in subsection (4) to any other receptacle.

PART X

PASTEURIZED AND STERILIZED MILK

GENERAL

36. (1) Apparatus used for the pasteurization or sterilization of milk shall be provided with indicating and recording thermometers accurate to decimal comma five degrees throughout the specified scale range.
- (2) Thermometers as prescribed in subsection (1) shall be located in an approved place in the said apparatus during the whole of the pasteurization or sterilization process.
- (3) Apparatus used for pasteurizing milk by high-temperature short-time method shall be thermostatically controlled, and shall, in addition to the mechanical devices necessary for the control of temperature and time, have a flow-control valve and a flow-diversion device which will automatically divert back to the balancing tank any milk which has not been subjected to the temperature and periods prescribed in terms of section 38(1)(b) and (2)(b).
- (4) Recirculated cold water, which is used in coolers and exchangers, shall be from a safe source and protected from contamination. Such water shall be tested every 6 months and shall comply with the requirements for wholesome water. Recirculated water systems, which become contaminated through repair, work or otherwise shall be properly treated and tested before being returned to use.
- (5) The filling and over-capping of bottles and the filling and sealing of cartons shall be performed by approved mechanical means so as to render unnecessary any, save unavoidable, handling of the container or its contents.
- (6) Bottling of packaging machines supply tanks and bowls shall be fitted with covers so constructed as to prevent any contamination from reaching the inside of the filler tanks or bowls.
- (7) A drip deflector designed and adjusted to divert condensation from the bowl away from the open container shall be installed on each filler valve.
- (8) Container infeed conveyors to automatic bottling or packaging machines shall have easily cleanable overhead shields to protect the bottles or packages from contamination unless the medical officer of health otherwise permits.
- (9) Filling cylinders or packaging machines shall be protected from contamination by the use of overhead shields.
- (10) Bottles and packages, which have been imperfectly capped or closed, shall immediately be emptied into approved containers, and their contents protected from contamination and subsequently repasteurized or discarded.
- (11) Caps, closures, cartons and packages and the materials from which these are made shall be handled in a hygienic manner.

RECORDS

37. (1) All such information as the medical officer of health may require to be recorded in connection with the process of pasteurization or sterilization shall be mechanically recorded.

- (2) The recording mechanism required in terms of subsection (1) shall, when required by the medical officer of health in addition at intervals of not more than twelve months, be tested by an approved competent instruments calibrator who shall record, in writing, his name and address and the date and result of his tests. Such record shall form part of the records which shall be kept in terms of this section.
- (3) The record required to be kept in terms of subsection (5) and all temperature charts shall be completed at the end of each day, shall be accurate and complete and shall at all times for a period of not less than six months be kept available for inspection by the medical officer of health.
- (4) On completion of the pasteurization of each run or batch a sample of the milk from that run or batch shall be tested on the premises where it was pasteurized by the person on control thereof by means of the Aschaffenburg and Mullen phosphatase test as described in rule 6 of the Code or such other test as may be approved for application on the spot. All milk found as a result of either of the said tests not to have been completely pasteurized shall be resubjected to the pasteurization process.
- (5) In respect of each run of pasteurization a written record shall be kept and the following information shall be contained therein: -
 - (a) The date and duration of the run.
 - (b) The quantity of milk treated during the run.
 - (c) The result of any test carried out in compliance with the provisions of subsection (4).

PASTEURIZATION

38. (1) The pasteurization of milk shall be performed either: -
 - (a) by heating every particle of the milk to a temperature of at least 63 °C and holding it at that temperature for not less than 30 minutes, the said process being hereinafter referred to as "the holder method" or "the batch method"; or
 - (b) by heating every particle of milk to and holding it at a temperature of at least 72 °C for at least 15 seconds, the said process being hereinafter referred to as "the high-temperature short-time method"; or
 - (c) by such other method as the medical officer of health may in the future approve, in writing:

Provided that no milk shall in any case be deemed to have been pasteurized if it fails to pass the Aschaffenburg and Mullen phosphatase test prescribed in rule 6 of the Code.

- (2) In case of cream or in the case of milk, milk products or composite dairy products containing added sweetening agents, pasteurization shall be performed either: -
 - (a) by heating every particle of the product to a temperature not lower than 66 °C and holding it at that temperature for not less than 30 minutes; or
 - (b) by heating every particle of milk to and holding it at a temperature not lower than 74 °C for at least 15 seconds; or

- (c) by such other method as the medical officer of health may in the future approve, in writing: -

Provided that no milk shall in any case be deemed to have been pasteurized if it fails to pass the Aschaffenburg and Mullen phosphatase test prescribed in rule 6 of the Code.

- (3) All pasteurized milk, milk products or composite dairy products except those to be cultured shall, immediately after pasteurization, be cooled in approved equipment and maintained at a temperature not exceeding 7 °C until it leaves the milk shop.
- (4) Pasteurization shall be carried out and controlled by means of approved apparatus and instruments and both apparatus and instruments shall be properly operated and maintained in good order and repair.
- (5) The process of pasteurization, if carried out according to the high-temperature short-time method, shall be mechanically controlled in respect of the range of temperature of the milk and of the period for which it is held at that temperature.
- (6) Apparatus used for pasteurizing milk shall be so designed and operated and shall be provided with controls adequate so as to ensure that every particle of milk is subjected to the prescribed range of temperatures for the prescribed period.

STERILIZATION

39. The sterilization of milk shall be performed by subjecting it by means of approved apparatus and instruments to heat at such a temperature and for such time, or by treating it by such other approved method, as will render it free from viable organisms.

PART XI

GENERAL PROVISIONS

OFFENCES AND PENALTIES

40. (1) Any person who fails to comply with any requirement of prohibition contained in these by-laws, or being the owner or person in charge of premises permits such failure, shall be guilty of an offence and liable on conviction, notwithstanding the cancellation or suspension of any control permit or other authority in terms of these by-laws issued to him, to a fine not exceeding R300-00 or to imprisonment for a period not exceeding 12 months or to both such fine and imprisonment.
- (2) Any person who owns, controls or manages the business of a dairy farm, dairy, milk shop or who is a milk purveyor shall be deemed himself to have committed or permitted the commission of an offence against these by-laws by a person employed or engaged in or in connection with the conduct of the business if it is proved that, although he did not know that such an offence was being committed, he could nevertheless be the exercise of reasonable diligence have prevented the commission thereof and did not in fact take all reasonable steps to prevent the commission of such offence.

CODE OF PRACTICE FOR THE TESTING OF MILK, MILK PRODUCTS, COMPOSITE DAIRY PRODUCTS AND FRUIT JUICES

RULES FOR THE CARRYING OUT OF TESTS

1. (1) The tests described in this Code are those to be applied in appropriate cases in terms of these by-laws, in order to ascertain the purity or impurity of milk, milk products, cream, composite dairy products and fruit juices.
- (2) For the purposes of this Code milk includes, inter alia, milk that has been subjected to pasteurization, sterilization or any other approved form of heat treatment, and also or any other approved form of heat treatment, and also cream, whether or not contained in a heat-sealed container, but does not include cream or condensed milk in a hermetically sealed container.

MICROBIOLOGICAL EXAMINATIONS

2. (1) Recognized bacteriological techniques for the maintenance of aseptic conditions shall be applied throughout all microbiological testing.
- (2) All distilled water used in the preparation of media shall be glass-distilled water.
- (3) All glassware used in the tests prescribed in terms of this Code shall be sterile.
- (4) The sterility of all glassware, media and diluents shall be checked by incubating with each test, representative control tubes and plates.
- (5) All pipettes used shall be grade-B pipettes of the blow out type.
- (6) All glassware used for volumetric measurement shall be of an accuracy equal to National Physical Research Laboratory Grade "B".
- (7) All the chemicals used in the preparation of solution and media mentioned herein shall, except where otherwise prescribed, be of analytical reagent grade or a grade acceptable for the preparation of bacteriological media.
- (8) Appropriate dehydrated culture media where sub-preparations are available may be used in lieu of the med-prescribed: Provided that such dehydrated preparations conform to the description given and give equivalent results. The peptone, bile salts, tryptone, yeast extract and ox-b used shall be equivalent to the reference standard help the South African Bureau of Standards, Private Bag 19, Pretoria.
- (9) (a) Samples of raw milk and fruit juice concentration shall be taken with sterilized equipment and transferred sterilized sample containers, taking precautions to prevent contamination of the sample. The sample container shall stoppered and transported as described in paragraph (d).
- (b) Samples of pasteurized milk, cream and milk products shall be taken in unopened original containers in which commodity is offered for sale to the public and transport as described in paragraph (d).
- (c) Samples of the milk contact surfaces of vehicles and equipment used for handling of milk shall be taken by means of sterile moistened cotton swabs which shall be brushed over a measured surface area, thoroughly rinsed in a measured amount of neutralizing buffer and the resulting liquid shall subsequently be tested. The samples shall

be transported as described in paragraph (d). The preparation of swabs, neutralizing buffer and the method of sampling shall be as prescribed by rule 11 of this Code.

- (d) Within 15 minutes of taking the sample it shall be placed in a well-insulated sample transport container, the internal ambient temperature of which shall be continuously maintained between 0 °C and 7 °C. The samples shall in no instance be frozen.
- (10) Samples shall be examined as soon as possible after arrival at the testing laboratory. If any sample is not examined immediately, unless otherwise prescribed, it shall be kept for a period not exceeding two hours at a temperature of between 3 °C and 5 °C until it is examined.

METHYLENE-BLUE REDUCTION TEST (RAW MILK)

- 3.
- (1) The methylene-blue reduction test for the testing of raw milk shall be carried out in accordance with the succeeding subrules of this rule.
 - (2) To 200 ml of cold, sterile, distilled water in a sterile flask add one British standard methylene-blue tablet of 19 mg dye content (or its equivalent so that the final concentration of methylene-blue in the stock solution is 1 : 25 000).
 - (3) Shake the flask until the tablet has dissolved and make up the solution to 475 ml with cold, sterile, distilled water (or its equivalent so that the final concentration of methylene-blue in the stock solution is 1 : 25 000).
 - (4) Place this solution in a light-resistant stoppered vessel and store in a cool, dark place.
 - (5) Do not use methylene-blue solution to make a test in terms of this rule if : -
 - (a) it has been exposed to sunlight; or
 - (b) a period of two months has elapsed since the date of preparation of the solution.
 - (6) Pour off the amount of solution required for a day's work from the stock solution into a glass container and transfer the required amounts into test-tubes.
 - (7) Adequately mix the sample of milk and pour off 10 ml thereof into a sterile test-tube nominally measuring 150 mm by 16 mm outer diameter and marked at 10 ml. Take all necessary precautions to prevent contamination of the sample.
 - (8) Add 1 ml of methylene-blue solution with a sterile one-millilitre pipette, taking care that the pipette does not come into contact with the milk in the test tube.
 - (9) Close the tube with a sterile rubber stopper and mix the contents by slowly inverting the tube twice.
 - (10) Place the tube within five minutes after the mixing in a thermostatically controlled covered water bath regulated to a temperature between 36 °C ± 1 °C.
 - (11) Set up as a control with each test one tube containing milk to which has been added 1 ml of tap water boiled for three minutes, and one tube containing milk which has been boiled for three minutes to which has been added 1 ml of methylene-blue solution.

- (12) The level of the water in the water bath shall just exceed the level of the contents of the tube.
- (13) Examine the contents for dye reduction at the end of every 30 minutes. The process shall be taken as complete when the column of milk is decolorized up to within 5 mm of the surface.
- (14) If at the end of 30 minutes decolorization has started and is not yet complete, replace the tube in the water bath until the process is complete, but if at the end of 30 minutes the contents show no decolorization, invert the tube once before replacing it in the water bath.
- (15) Pay no regard to any trace of colour at the bottom of the tube extending upward for not more than 5 mm.

RESAZURN REDUCTION TEST (RAW MILK)

4. (1) The resazurin reduction test for the testing of raw milk shall be carried out in accordance with the succeeding subrules of this rule.
- (2) The 0,005 % (m/v) resazurin solution to be used in carrying out the said test shall be: -
 - (a) preparation from standardised resazurin tablets;
 - (b) made up in sterile, distilled water; and
 - (c) freshly made up each day on which a test is made.
- (3) Adequately mix the sample of raw milk and pour 10 ml thereof into a sterile test-tube nominally measuring 150 mm by 16 mm outer diameter marked at 10 ml.
- (4) To the sample in the test-tube add 1 ml of a 0,005 % (m/v) solution of resazurin by means of a sterile one-millilitre pipette.
- (5) Do not allow; the pipette to come into contact with the milk in the tube.
- (6) Take all necessary precautions to prevent contamination of the sample.
- (7) Close the tube with a sterile rubber stopper and mix the contents by slowly inverting the tube twice.
- (8) Place the tube within five minutes after the mixing in a thermostatically controlled covered water bath regulated to a temperature between $36^{\circ}\text{C} \pm 1^{\circ}\text{C}$.
- (9) The level of the water in the water bath shall just exceed the level of the contents in the tubes.
- (10) At the end of two hours plus minus one minute in the case of raw milk after inverting the tube once, take a Lovibond disc reading to assess the dye reduction.
- (11) For the Lovibond disc reading use a special resazurin test disc designated No 4/9 and a control consisting of a blank tube of the same milk being tested, but without resazurin.

- (12) Carry out the reading of the samples in good reflected light but not in direct sunlight.

MODIFIED EIJKMANN TEST

5. (1) The modified Eijkmann test for the testing of raw milk, pasteurized milk, pasteurised cream, pasteurized milk products, pasteurized composite dairy products and surface contact swab samples, shall be carried out in accordance with the succeeding subrules of this rule. (For the purposes of this rule the term "Escherichia coli type 1 bacteria (faecal coli)" shall mean that organism which produces gas at $44\text{ }^{\circ}\text{C} \pm 0,25\text{ }^{\circ}\text{C}$ in 2 % (m/v) brilliant green bile broth and produces indole in tryptone water at the same temperature).
- (2) In the case of milk, cream, fluid milk products and contact swab samples, adequately mix the sample and if the cream is too thick for convenient handling, warm it to a temperature not higher than $37\text{ }^{\circ}\text{C}$.
- (3) All precautions necessary having been taken in order to prevent contamination, inoculate tubes containing 2 % (m/v) brilliant green bile broth and an inverted Durham fermentation tube for the detection of gas with 0,01 ml in the case of raw milk, or 1 ml in the case of pasteurized milk, pasteurized cream, pasteurized milk products, pasteurized composite dairy products and surface contact swab samples by means of one-millilitre pipette.
- (4) For the measurement of the 0,01 ml quantities to be tested in the case of raw milk, prepare serial dilutions in accordance with the method described in rule 9(2).
- (5) Inoculate three tubes for each sample being tested, except in the case of contact swab samples where two tubes only shall be inoculated.
- (6) Incubate the inoculated brilliant green bile broth for 48 hours in a water bath specially controlled at a temperature which shall not be more than $0,25\text{ }^{\circ}\text{C}$ more or less than $44\text{ }^{\circ}\text{C}$.
- (7) If the incubation prescribed in terms of subrule (6) leads to the formation of gas as seen in the Durham tube an inoculum of 0,2 ml from each brilliant green bile broth tube showing gas shall be transferred into a separate tube of tryptone water.
- (8) Incubate the tryptone water tubes referred to in subrule (7) in the water bath mentioned in sub rule (6) at $44\text{ }^{\circ}\text{C} \pm 0,25\text{ }^{\circ}\text{C}$ for 24 hours.
- (9) At the end of the said 24 hours test the tryptone water tubes for indole production by the addition of 0,5 ml of Kovac's reagent.
- (10) The development of a rose-coloured ring at the interface of the two liquids shall be taken as indicating the presence of indole.
- (11) A positive result for gas and indole in one, two or three tubes from the same sample shall be taken as indicating the presence of Escherichia coli-type 1.
- (12) In the case of semi-solid products adequately mix the sample and place 11 g in a sterile wide mouth container, then add 99 ml of warmed ($\pm 40\text{ }^{\circ}\text{C}$) sterile 2 % (m/v) sodium citrate solution and shake the mixture until a homogeneous dispersion is obtained.
- (13) All precautions necessary having been taken in order to prevent contamination of the sample, inoculate by means of a ten-millilitre pipette,

tubes containing 10 ml of double strength brilliant green bile broth with 10 ml of the dispersed sample prepared in terms of subrule (12) to give a concentration of 1 g of sample in 20 ml of 2 % (m/v) brilliant green bile broth.

- (14) The remainder of the test shall be carried out as specified in subrules (5) to (11) inclusive of this rule.
- (15) Prepare the 2 % (m/v) brilliant green bile broth, the double strength brilliant green bile broth, the tryptone water and the Kovac's reagent in the following manner:
- (a) (i) The composition of the 2 % brilliant green bile broth shall be as follows: -
- Ox-bile, 20 g.
- Peptone, 10 g.
- Lactose, 10 g.
- 1 % (m/v) aqueous solution of brilliant green, 1,3 ml.
- Distilled water, 1 Litre.
- (ii) Dissolve the constituents in the distilled water to form a solution.
- (i) Adjust pH to a value of 7,2 to 7,5.
- (ii) Distribute the medium in ten millilitre quantities amongst test-tubes and sterilize them in an autoclave at 121 °C for 15 minutes.
- (b) (i) The composition of the tryptone water shall be as follows:
- Tryptone, 10 g.
- Sodium chloride, 5 g.
- Distilled water 1 Litre.
- (ii) Dissolve the constituents in the distilled water by warming it slightly.
- (iii) Adjust the pH to a value of 7,4 to 7,5.
- (iv) Distribute the medium in five-millilitre quantities amongst test-tubes and sterilize them in an autoclave at 121 °C for 15 minutes.
- (c) (i) The composition of the Kovac's reagent shall be as follows:
- Paradimethylaminobenzaldehyde, 5g.
- Concentrated hydrochloric acid, 25 ml.
- Amyl alcohol (pyridine free), 75 ml.
- (ii) Dissolve the paradimethylaminobenzaldehyde in the amyl alcohol, and then add hydrochloric acid.

- (iii) The reagent when fully prepared should be yellow in colour.
 - (iv) Place the reagent in an amber-coloured glass stoppered vessel and store in a cool, dark place.
 - (v) The reagent shall not be used within 24 hours after preparation.
- (d) (i) The composition of the double strength brilliant green bile broth shall be as follows: -
- Ox-bile, 40 g.
 - Peptone, 20 g.
 - Lactose 20 g.
 - 1 % (m/v) aqueous solution of brilliant green, 2,6 ml.
 - Distilled water, 1 Litre.
- (ii) Dissolve the constituents in the distilled water to form a solution.
 - (iii) Adjust the pH to a value of 7,2 to 7,4.
 - (iv) Distribute the medium in ten-millilitre quantities amongst test-tubes containing an inverted Durham fermentation tube and then sterilize the test-tubes in an autoclave at 121 °C for 15 minutes.

ASCHAFFENBURG AND MULLEN PHOSPHATASE TEST (PASTEURIZED MILK, PASTEURIZED MILK PRODUCTS AND PASTEURIZED CREAM)

6. (1) The phosphatase test shall be carried out in accordance with the succeeding subrules of this rule.
- (2) Examine every sample to be tested as soon as possible after it's arrival at the testing laboratory.
- (3) If the sample is not examined immediately on its arrival at the testing laboratory, keep it at a temperature of between 3 °C and 5 °C until examined.
- (4) Raise the temperature of the sample to room temperature immediately before doing the examination.
- (5) Take the following precautionary measures during or in connection with the examination of a sample:
- (a) Do not test a sample, which shows evidence of taint or souring.
 - (b) See that all glassware is cleaned immediately before use.
 - (c) Use a fresh pipette for each sample of milk or cream and ensure that no pipette is contaminated with saliva.
 - (d) Do not carry out the examination in direct sunlight.
 - (e) Use distilled water only throughout the examination.

- (6) Whenever practicable, use reagents of analytical quality for the purposes of this test, and prepare the buffer-substrate solution as follows:
- (a) Buffer solution: Dissolve 3,5 g of anhydrous sodium carbonate and 1,5 g of sodium bicarbonate in distilled water and make up to 1 Litre in a standard flask.
 - (b) Keep the solid substrate, being disodium p-nitrophenyl phosphate, in a refrigerator.
 - (c) Buffer-substrate solution:
 - (i) Place 150 mg of the substrate in a 100 millilitre standard flask Grade B and make up to 100 millilitres with the buffer solution.
 - (ii) Store the solution in a refrigerator and protect from light.
 - (iii) Using distilled water for comparison, the solution should give a reading of less than the standard marked 10 on the comparator disc A.P.T.W. or AP.T.W. 7 when viewed in transmitted light through a 25-millimetre cell in the all purpose comparator.
 - (iv) Do not use the solution for more than one week.
- (7) Use the following apparatus in making the examination:
- (a) A Lovibond all purposes comparator with a stand for work in reflected light.
 - (b) A Lovibond comparator disc A.P.T.W. or A.P.T.W. 7.
 - (c) Two fused glass cells, 25 mm deep.
 - (d) A waterbath or incubator capable of maintaining a temperature of $37,0\text{ }^{\circ}\text{C} \pm 0,5\text{ }^{\circ}\text{C}$.
 - (e) A pipette to deliver 5,0 ml.
 - (f) A supply of 1,0 ml straight-sided pipettes of an accuracy equal to that of N.P.L. Grade B.
 - (g) 1 Litre standard flasks.
 - (h) A 100 millilitre standard flask Grade B.
 - (i) An adequate supply of test-tubes conforming to British Standard 625 : 1959 of nominal size 150/16 and fitted with rubber stoppers.
- (8) (a) After use, empty each test-tube, rinse it in water, wash well in hot water containing soda, rinse in warm water, rinse in distilled water and finally dry.
- (b) If after treatment in accordance with paragraph (a) hereof a test-tube does not appear to be clean, repeat the treatment with the addition that, after being rinsed in warm water, it should be soaked in commercial hydrochloric acid and then rinsed again in warm water before being rinsed in distilled water and finally dried.

- (c) Clean new glassware by soaking it in a solution of chromic acid consisting of five volumes of 8 % (m/v) potassium bichromate and four volumes of concentrated sulphuric acid added slowly and carefully to the mixture of bichromate and water.
 - (d) Keep the solution referred to in paragraph (c) covered and discard when it becomes green.
 - (e) After cleaning it in the manner described above, new glassware shall be rinsed in warm water, rinsed in distiller water and then dried.
 - (f) Pipettes should be well rinsed in cold water and then cleaned by soaking for 24 hours in a solution of chromic acid in a 250 ml glass cylinder or other suitable container, and thereafter well rinsed in warm water, rinsed in distiller water and then dried.
 - (g) Do not use glassware used for the examination for any other purpose and keep it apart from all other apparatus in the laboratory.
- (9)
- (a) Carry out the examination in the manner described in the succeeding paragraphs of this subrule.
 - (b) Transfer 5 ml of the buffer-substrate solution to a test-tube by means of a pipette; stopper the test-tube and bring to a temperature of $37,0\text{ }^{\circ}\text{C} \pm 0,5\text{ }^{\circ}\text{C}$.
 - (c) Add 1 ml of the milk or cream to be tested, replace the test-tube stopper and mix the contents thereof well by shaking.
 - (d) Incubate the test-tube thereafter for two hours plus minus one minute at $37,0\text{ }^{\circ}\text{C} \pm 0,5\text{ }^{\circ}\text{C}$.
 - (e) Incubate one check sample prepared from boiled milk or cream of the same type as those undergoing the test with each series of samples.
 - (f) After the incubation remove the test-tube from the waterbath and mix its contents well.
 - (g) Place the check sample on the left-hand ramp of the stand and the test sample on the right.
 - (h) Take readings in reflected light by looking down on the two apertures with the comparator facing a good source of daylight, preferably north light.
 - (i) If artificial light is needed for matching, use a daylight type of illumination.
 - (j) Revolve the disc until the test sample matches check sample.
 - (k) Record readings falling between two standards by fixing a plus or minus sign to the figure for the nearest standard.

METHYLENE-BLUE REDUCTION TEST (PASTEURIZED MILK)

7. (1) The methylene-blue reduction test for the testing pasteurized milk shall be carried out in accordance with succeeding subrules of this rule.

- (2) Make the methylene-blue solution required for this test in the manner described in rule 3(2) to (6) inclusive.
- (3)
 - (a) Thoroughly mix the bottle of carton of milk to be tested and pour off a sample of approximately 100 ml aseptically into a sterile, wide-mouthed, glass-stoppered bottle approximately 150 ml in capacity.
 - (b) Store this sample in a refrigerator at a temperature not exceeding 5 °C until commencement of the test.
- (4) Encubate the sample of milk in an incubator or a water bath at 18 °C ± 0,5 °C for 18 hours plus minus 15 minutes after adjusting the temperature of the milk to 18 °C ± 0,5 °C.
- (5) Carry out the remainder of the test as prescribed in rule 3(7) to (15) inclusive.

METHYLENE-BLUE REDUCTION TEST (PASTEURIZED CREAM)

8.
 - (1) The methylene-blue reduction test for the testing of pasteurized cream shall be carried out in accordance with the succeeding subrules of this rule.
 - (2) Make the methylene-blue solution required for the aforesaid test in the manner described in rule 3(2) to (6) inclusive.
 - (3) Set up the test at approximately 16h00 on the day on which the sample is taken.
 - (4) Store the sample in the refrigerator at a temperature not exceeding 5 °C until the test is about to be set up.
 - (5) Into a sterile test-tube of a nominal size of 150 mm by 16 mm outer diameter and marked at 10 ml introduce 7 ml of one quarter strength Ringers Solution by means of a sterile pipette.
 - (6) To the solution referred to in subrule (5) add 1 ml of methylene-blue solution .
 - (7) Adequately mix the sample of cream and pour it into the test-tube up to the ten-millilitre mark.
 - (8) Close the test-tube with a sterile rubber stopper and mix its contents by inverting the tube.
 - (9) Incubate one tube containing 8 ml of Ringers Solution and filled with cream up to the ten-millilitre mark with the test as a control tube.
 - (10) Incubate the tubes in an incubator or water bath at 18 °C ± 0,5 °C for 18 hours plus minus 15 minutes after adjusting the temperature of the cream to 18 °C ± 0,5 °C.
 - (11) At the end of the aforesaid 18 hours transfer the tubes to a water bath which has a temperature of 36 °C ± 1 °C.
 - (12) The level of the water in the water bath should just exceed the level of the contents in the tubes.
 - (13) At the end of every 30 minutes examine the incubated creams for dye reduction, which process shall be taken as complete when the whole column of cream is decolorized up to within 5 mm of the surface when compared with the control tube.

- (14) If decolorisation is not complete, invert the tube and replace it in the water bath.
- (15) Samples of cream which decolourise the methylene-blue in less than two hours incubation at $36\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ shall be deemed to have failed the test.
- (16) The quarter-strength Ringer Solution used for the test described in this rule shall be prepared in the following manner:
 - (a) Full strength Ringers Solution shall be prepared by dissolving:
 - Sodium chloride B.P., 9 g;
 - Potassium chloride A.R., 0,42 g;
 - Anhydrous calcium chloride A.R., 240 mg;
 - Sodium bicarbonate A.R., 200 mg;

In 1 L of distilled water.
 - (b) Add one part of full-strength Ringers Solution to three parts of distilled water.
 - (c) Pour the solution referred to in paragraph (b) into 100 millilitre bottles and autoclave them at $121\text{ }^{\circ}\text{C}$ for 15 minutes.

THE STANDARD AGAR PLATE COUNT (FRUIT JUICES AND CONTACT SWAB SAMPLES)

- 9. (1) The Standard Agar Plate Count shall be carried out in accordance with the succeeding sub rules of this rule.
- (2) (a) Fruit juice concentrates shall be reconstituted to the original single strength by the use of sterile distilled water before testing.
- (b) All precautions shall be taken to prevent contamination of the product while reconstitution is carried out.
- (3) For reconstituted fruit juice concentrates and other fruit juices the test shall be carried out as follows:
 - (a) Prepare dilutions in a sterile phosphate buffer solution, pH 7,2.
 - (b) (i) Thoroughly mix the sample before transferring the test portion.
 - (ii) Prepare serial dilutions by adding 1 ml of same to test-tube containing 9 ml of sterile diluent to make a one-in-ten-dilution or 1 ml of sample to 99 ml of sterile diluent in screw-up bottle to make a one-in-hundred dilution as set out in paragraphs (c) to (f) inclusive.
 - (c) Introduce the tip of a one-millilitre pipette into the sample to a depth of 10 to 20 mm below the surface and suck the sample up to the one-millilitre mark, the pipette being held vertically.
 - (d) Before it is withdrawn touch the tip of the charged pipette against the inside wall of the neck of the container.

- (e) Then transfer the charged pipette to the dilution tube or bottle and, with the tip touching the side of the tube bottle at a point 10 to 20 mm above the level of the diluent gently blow out the contents of the pipette.
 - (f) With a fresh pipette mix the dilution in the tube sucking up and expelling ten times. Where bottles are used mix by shaking each container by making 25 complete up and down movements of about 300 mm in 7 seconds before transferring the test portion.
 - (g) If further dilutions are required, measure 1 ml of first dilution and transfer it to a second dilution tube bottle, after which the pipette should be discarded.
 - (h) Prepare further tenfold and one-hundred-fold dilutions in the manner described above in this subrule.
- (4) The inoculation of petri-dishes shall be carried out in the following manner:
- (a) With a clean one-millilitre pipette and by means of the mixing procedure described in subrule (2) transfer 1 ml of the appropriate dilution or the undiluted sample where applicable to a petri-dish.
 - (b) Hold the tip of the charged pipette about 10 mm above the bottom of the dish. Blow out the contents of the pipette, after 3 seconds tap the tip of the pipette against the dish at a point away from the liquid already delivered and blow out the last drop.
 - (c) Use two dilutions for each sample.
 - (d) The petri-dishes shall be of a nominal size of 95 mm in inner diameter, 100 mm in outer diameter and 15 mm in height.
 - (e) Check the sterility of the diluents and apparatus by pouring control plates.
- (5) The pouring of the agar medium into the petri-dishes shall be carried out in the following manner:
- (a) To each petri-dish add 10 to 15 ml of melted plate count agar medium at a temperature of about 45 °C.
 - (b) As soon as the medium is delivered thoroughly mix the plates by rotating the dish in one direction and then in the other.
 - (c) Allow the dish to stand until the medium has set then invert and transfer it to the incubator.
 - (d) The period between the preparation of the dilutions and the pouring of the petri-dishes shall not exceed 15 minutes.
- (6)
- (a) Incubate the petri-dishes bottom upwards for a period of 72 hours at 30,0 °C ± 1,0 °C.
 - (b) Do not stack the dishes more than six deep in the incubator.
- (7) The following requirements shall be complied with in connection with the counting of colonies.

- (a) If the colonies are not counted within 4 hours after the expiry of the incubation period, store the petri-dishes for not longer than 24 hours at a temperature not exceeding 4 °C nor less than 1 °C.
 - (b) Use a colony illuminator counting box with a dark background illuminated from the inside and having a magnifying lens of approximately 125 mm diameter giving a magnification of X 2 to assist in the counting of plates.
 - (c) Use only plates with colony counts of between 30 and 300 for recording the results.
 - (d) An average of the counts on both plates belonging to one dilution shall be taken as the count for that dilution.
 - (e) Record the count per millilitre fruit juice by multiplying the count per dilution by the reciprocal of the dilution concerned.
- (8) Plate count agar shall be prepared as follows: -
- Tryptone, 5g.
- Yeast Extract, 2,5 g.
- Glucose, 1 g.
- Agar, bacteriological grade 15 g.
- Distilled water 1 Litre.
- Adjust the pH of the medium so that the final reaction after sterilization is 7,0 °C ± 0,1, dispense into bottles, tubes or flasks, and autoclave for 15 minutes at 121 °C.
- (9) (a) Prepare the phosphate buffer solution pH 7,2 used as the diluent in the aforesaid test by dissolving 5,08 g potassium dihydrogen phosphate (KH₂PO₄) and 13,63 g disodium hydrogen phosphate (Na₂HPO₄) in 2 Litre of distilled water.
 - (b) The pH of the above solution should be 7,2.
 - (c) Sterilize the solution by autoclaving at 121 °C for 15 minutes.

THE COLIFORM TEST

10. (1) The coliform test for the testing of pasteurized milk, pasteurized cream, pasteurized milk products and pasteurized composite dairy products shall be carried out in accordance with the exceeding subrules of this rule, and for the purposes of this rule the term “coliform bacteria” shall mean aerobic and facultatively anaerobic gram negative non spore forming rods capable of fermenting lactose in the presence of bile salts with the production of acid and gas at about 30 °C to 38 °C within 48 hours.
- (2) Prepare the samples in the following manner:
- (a) Adequately mix samples of milk, separated milk, buttermilk or cream – if the cream is too thick for convenient handling it may be warmed to a temperature not exceeding 37 °C.

(b) Adequately mix viscous milk products, cottage cheese or composite dairy products and place 11 g of the product in a sterile wide-mouth container, then add 99 ml of warmed (40 °C) sterile 2 % (m/v) sodium citrate solution and shake the mixture until a homogeneous dispersion is obtained.

(3) prepare violet red bile agar as follows:

Yeast Extract, 3 g.

Peptone, 7 g.

Bile salts, 1,5 g.

Lactose, 10 g.

Sodium chloride, 5 g.

Neutral red, 30 mg.

Crystal violet, 2 mg.

Agar, 15 g.

Distilled water, 1 Litre.

Dissolve all the ingredient except the agar and adjust the pH to a value of 7,4. Add the agar, heat with agitation and boil for 2 minutes, cool to about 45 °C and use as a plating medium.

(4) Transfer 1 ml of sample by means of a pipette or decimal volume thereof into each of two sterile plates. Add to each plate 10 to 15 ml of violet red bile agar tempered to 44 °C to 46 °C. When plating cream or products mentioned in subrule (2)(b) also distribute 10 ml of the 1 : 10 dilution in two to four dishes, using 15 to 20 ml of medium per dish.

(4) Mix the contents of plates thoroughly by tilting and rotating the dish. Allow the mixture to solidify promptly (5 to 10 minutes), then distribute an additional 3 to 4 ml of the plating medium as an overlay completely covering the surface of the solidified medium.

(5) Invert and incubate plates for 24 ± 2 hours at $32 \text{ °C} \pm 1 \text{ °C}$.

(6) Dark red colonies measuring 0,5 mm or more in diameter on uncrowded plates are considered to be coliform bacteria. Count such colonies only, preferably not exceeding 150 per plate. Express the result as the number of coliform bacteria per millilitre of milk.

(7) Tests on products with developed acidity shall be made within 24 hours after manufacture.

SWAB CONTACT SAMPLING PROCEDURE

11. The preparation of swabs, neutralizing buffer and sampling of milk contact surfaces by means of contact swab samples shall be carried out as follows:

(a) Cotton swabs shall be prepared by firmly twisting non-absorbent cotton wool into a head approximately 5 mm diameter by 20 mm long on one end of a wooden applicator stick ± 150 mm long. The swabs shall be packaged

individually or in convenient multiples in suitable protective containers and sterilized by autoclaving at 121 °C for 15 minutes.

- (b) (i) The composition of neutralizing buffer shall be as follows: -
- Monopotassium phosphate, 42,5 mg.
 - Sodium thiosulphate, 160 mg.
 - Aryl suphonate complex, 5,0 g.
 - Sodium hydroxide, 8 mg.
 - Distilled water, 1 Litre.
- (ii) Dissolve the constituents in the distilled water.
- (iii) Adjust the pH to a value of 7,2.
- (iv) Distribute the solution into screw cap bottles of approximately 30 ml capacity in 6,2 ml quantities, so that a volume remains in each bottle after sterilization, which will give 5 ml after swabbing. Sterilize the buffer by autoclaving at 121 °C for 15 minutes.
- (c) Contact swab samples shall be taken as follows: -
- (i) All precautions for maintaining sterile conditions having been taken, open the swab container, grasp the end of the stick opposite to the swab head and remove the swab from the container.
 - (ii) Open a bottle of neutralizing buffer, moisten the swab head and press out the excess solution against the interior wall of the bottle using a rotational motion. Hold the swab at an angle of approximately 30 °C to the surface being sampled and slowly and thoroughly rub the swab over approximately 50 cm² of the surface. Rub the swab three times over this surface, reversing direction between successive strokes. Return the swab head to the solution in the bottle, rinse briefly in the solution and press out the excess.
 - (iii) Swab four more 50 cm² areas of surface as described in subparagraph (ii), rinsing the swab in solution after each swabbing.
 - (iv) After the fifth swabbing, position the swab in the bottle and break or cut off the swab head aseptically leaving the swab head in the bottle.
 - (v) Replace the screw cap on the bottle.
 - (vi) For the purpose of calculating the count, each millilitre of solution in the bottle after the completion of the swabbing procedure, shall be deemed to represent 50 cm² of surface swabbed and the undiluted solution or appropriate dilutions thereof shall be used for the prescribed tests.