



**milma**

**KERALA CO-OPERATIVE MILK MARKETING  
FEDERATION LIMITED**

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**OFFERS INVITED**

**FOR CONVERSION OF SURPLUS MILK TO  
SKIMMED MILK POWDER/WHOLE MILK  
POWDER/BUTTER/GHEE**

**FOR**

**THE MILMA DAIRIES IN KERALA**

**Last date of receipt of Tender : 08/05/2018, up to 10.30 am**

**Place of submission of Tender : KCMMF, Pattom Palace, Trivandrum**

**Date of opening of Tenders : 08/05/2018, 11 am**



## **Kerala Co-operative Milk Marketing Federation Ltd.**

Milma Bhavan, Pattom Palace P.O., Thiruvananthapuram -695 004

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### **OFFERS INVITED FOR CONVERSION OF MILK**

Competitive offers are invited from reputed dairy plant operators/owners in the neighboring States of Kerala stationed within 500kms from the dairies of KCMMF/Union for undertaking conversion of milk to milk powder/butter/ghee. The detailed terms and conditions are available from this office free of cost by email/post or the same can be downloaded from our website [www.milma.com/www.malabarmilma.com](http://www.milma.com/www.malabarmilma.com).

For any further details contact: +919447069590/+919447444003

Dated: 20.04.2018

Sd/-  
Managing Director

**GENERAL TERMS & CONDITIONS FOR CONVERSION OF MILK TO  
SMP/WMP/BUTTER/GHEE**

1. Competitive offers are invited for the "Rate contract for Conversion of Raw chilled milk/Whole milk into white butter/Ghee/skimmed milk powder/Whole Milk Powder for a period of One year"
2. The offer should be submitted in the prescribed format given in **Annexure I** in the letter head of the converter along with required details.
3. The Converter submitting the offer should have Dairy Plant with Fat handling (Butter/Ghee production) and Skim Milk Powder/Whole Milk Powder Manufacturing facilities.
4. The Converter offering conversion should have minimum experience of 3 Years in the operation of Dairy plant, Milk conversion and Skimmed/WholeMilk drying.
5. The Converter should have necessary infrastructural facilities such as capacity, man-power, suitability and eligibility for conversion of milk.
6. The Converter should have previous experience in handling a minimum of fifty thousand Litres of Milk per day.
7. Sufficient proof for above such handling shall be enclosed by way of documents submitted to Government agencies, or other agencies, etc or any other document.
8. The Converter should have Good Manufacturing Practices implemented in their unit.
9. A technical team from Milma will evaluate various factors such as Capacity. experience etc., suitability and eligibility of the Converter and only offer submitted by the Converter who qualifies in the evaluation will be considered.
10. Conversion plants will ensure hygienic and sanitary condition for storage of SMP and WB/Ghee on plastic planks/pallets/Storage Tanks in clean and dry place away from sunlight. The place should be free from dust and pest/rodent environment. The deep freeze to be used for storage of WB should essentially be fumigated prior to its use and the fumigation should be carried out in presence of the respective Milma officials. In case of Ghee, it shall be stored in clean & hygiene Storage Tanks for lifting in Tankers.
11. Converted products SMP and WB/Ghee will be lifted by Milk Unions / KCMMF in 30 days' time from the conversion date. The extension of this period can be modified with mutual consent.
12. The successful Converter has to execute an agreement on Rs.200/- non-judicial stamp paper incorporating the terms and conditions of the contract within 15 days from the date of intimation of the acceptance of the offer.

13. If the Union/Federation incurs any loss / additional expenditure due to the negligence of the Converter in connection with the conversion of Milk during the period of contract, the same shall be recovered together with all charges and expenses from the Converter.
14. The breakages or damages, if any, caused by the Converter to the property of the Union /Federation, the cost will be recovered from the Converter.
15. This is a fixed price contract. Price adjustment clause (to account for raise or fall in the money value / statutory taxes during the contract period) is not operable for this contract. However any variation in the statutory levies and Taxes by State Government / Central Government shall be effected on the end price to the benefit of either the Converter or Federation as the case it may be.
16. The bidder should quote rates for conversion charges on the basis of per kg. Manufacturing, packing, storage and handling of SMP, WHITE BUTTER & GHEE in the prescribed format given in **Annexure I**. It should be quoted inclusive of all taxes and duties, if any.
17. KCMMF and Milk Unions shall supply Milk from different Plants and will lift SMP & WB/GHEE after quality checks.
18. The converter shall receive the Skim /Whole milk from the Milk Union as per Milk Movement plan which is based on availability of surplus Milk and arrange to unload of Skim/Whole milk & store separately.
19. The successful Converter shall have to carry out job in strict hygienic & sanitary by following GMP & environment conforming to the basic standards laid down by Food Safety & Standards Act 2006 ISO 22000:2005 and other rules and regulations prevalent. Violation of any clause of different Acts shall be the sole responsibility of the successful Converter.
20. SMP shall have to be manufactured BIS marked & Butter/Ghee as per specifications and recovery norms of Fat and SNF as given in Annexure III of this document.
21. BUTTER manufactured shall be stored in such a way that it should attain a temperature of  $-18^{\circ}$  C within 10 days from the date of manufacture. At the time of dispatch the body temperature of Butter should be  $-18^{\circ}$  C.
22. The Ghee manufactured shall be stored in insulated Storage Tanks & shall have the granulated structure without oil separation at the time of dispatch through Tanker Lorries.
23. The successful Converter shall ensure the availability of all manufacturing and testing facilities at the factory premises and maintain them properly including their calibration and stamping at regular interval to ensure precision testing.
24. Milk is to be tested using a Zeal Type Lactometer at  $29^{\circ}$ C (84F) and formulae to be followed for SNF% calculation shall as below:

- (i) In whole milk  $SNF\% = CLR/4 + Fat\% \times 0.2 + 0.50$
- (ii) In skimmed milk  $SNF\% = CLR/4 + Fat\% \times 0.2 + 0.50$
25. SMP shall be packed in quantities of 25 kg primarily in bags of food grade polyethylene (see IS 10171) of minimum thickness 0.05 mm. The bags should be properly closed by tying with a string or a rubber band and shall be subsequently encased in secondary outer packing in any of the following:
- a) Sacks conforming to IS 11824 and b) Multi walled Kraft paper, such as crepe Kraft paper bags of not less than 80 GSM grade lined with Hessian cloth having a mass of 270 GSM and having two inner layers of plain Kraft paper of not less than 80 GSM. In case packing material is provided by Milk Union, no losses in packing material will be accepted.
  - b) SMP/WMP manufactured should be clear & have uniform size granules without any lumps & burnt particles and the plant should have the facility to produce Skimmed/Whole milk powder.
26. Butter be packed in 20 Kg with food grade unprinted PVC liner in corrugated boxes made of 5 ply, each ply should be of 150 GSM with the box bursting strength of minimum 12 kg./sq.cm.
27. The Bulk Ghee shall be stored in insulated Storage Tanks for the easiness of pumping in to the Tanker Lorries while lifting.
28. The Converter has to acknowledge the time of arrival of Milk tanker from the supplying union as soon as it reaches their plant. The Quality & Quantity of Milk as recorded by the Milk sending Union/Dairy will be final for the purpose of accounting. In case of any variation in quality & quantity the issue shall be resolved with mutual consent by both sending Union/Dairy & Conversion plant (Receiving Dairy).
29. Formula to be used for analysis of milk is  $SNF\% = (CLR/4 + 0.20 \times (FAT\%) + 0.50)$ , tested at 29°C, or analysis based on gravimetric method, and the instruments with FTIR technology for processed milk if any disputes. Use of Lactometers other than "Zeal Type Lactometer" (Star/Equivalent Lactometer) is not accepted for analysis of KCMMF Milk.
30. The converter shall inform the KCMMF/Unions on regular basis, (every 10 days) on the Milk receipt & the quality of product manufactured to plan for lifting of converted stocks.
31. The converter shall handle/convert KCMMF/ Union milk separately and store separately. Shall not use KCMMF/Union milk or milk product for their own use/other purpose.
32. It will be the responsibility of the approved conversion plant to ensure unloading of milk immediately on receipt and testing of milk. In case of inordinate delay in unloading of tanker, KCMMF / Milk Union may impose penalty in lieu of disruption in working and direct or indirect losses occurring due to the deterioration in the quality of Milk.

33. Conversion plants will ensure the maximum limit of moisture% in SMP is as per the given specification. Increase in moisture%, is not allowed as it will lead to quality problem on storage.
34. The conversion plant will ensure to supply Butter fat as per the given recovery norms, in case of short receipt of Butter fat & Ghee, KCMMF / Milk Union will impose pro rata recovery for the less quantity fat received, which will be calculated on the basis of Rs. 471.30 per kg fat.
35. It will be responsibility and liability of conversion milk plants to ensure that SMP/WMP and Butter/Ghee manufactured & supplied to KCMMF/ Milk Union is of the same milk received from KCMMF/ Milk Union. Conversion plant should ensure appropriate coding of batch nos. of SMP/WMP and Butter/Ghee and should keep record of corresponding raw material, i.e. name of source, quantity and quality report so that back tracing of sources of ingredients i.e. raw material used in particular batch should be available at the plant.
36. The authorized representative of KCMMF/ Milk Union shall inspect the premises in regard to sanitation and hygienic practices and conditions as well as the records regarding the quality of raw milk, quality and manufacture of Butter, Ghee and SMP/WMP as well as packaging materials and packaging practices and or as may be directed to inspect by the company.
37. All the SMP/WMP/Butter/Ghee produced is subject to inspection before acceptance. If they are rejected on quality grounds, then the Converter will have to manufacture SMP/Butter/Ghee from own resources and supply equivalent quantity of WMP/SMP/Butter/Ghee as per standards or the landed cost of milk supplied will be recoverable from the successful Converter. Milk Union's inspection report in this regard shall be treated as FINAL. Any consignment sold from the batch found rejected by the purchaser due to inferior quality /packing the manufacturing plant should take responsible for replacing the product and the cost incur for transportation and handling will be recovered from the work awarded Converter.
38. The conversion losses as below fixed by the Federation will be applicable

1)	SNF loss % during conversion of Milk to SMP(On SNF to SNF basis)	3.0%
2)	FAT loss % during conversion Milk to Butter (On FAT to FAT basis)	2.0%
3)	FAT Loss % during conversion Milk to GHEE (on Fat to Fat basis)	3.0%

39. For payment of conversion charges, the Converter will raise a bill towards the conversion charges on fortnightly (15 Days) basis. The bill shall be raised on the Milk Sending Union by enclosing/mentioning the details of milk received and products manufactured during the period.

40. Payments shall be made promptly by the Unions but in no case later than Fifteen (15) days after submission of the invoice or claim by the Converter. Payment shall be made in Indian Rupees by cheque or through RTGS.
41. If the Converter fails to execute the work in full or part of the order the Federation/Union shall reserve the right to cancel the order without any notice.
42. There is no obligation rests on the Union/ Federation to accept the lowest tender and the Union/ Federation shall also have the right to accept or reject any or all the tenders fully or partly without assigning any reasons.
43. For violation of any of the terms and conditions of the contract, the Federation reserves the right to terminate the contract, with or without notice as applicable.
44. In case of disputes arising out of this tender, an arbitrator as mutually acceptable to the Converter and Federation will be appointed by the Managing Director, KCMMF Limited. The arbitrator's decision shall be final, conclusive and binding on both the parties.
45. In case if either Converter to the tender is aggrieved by the award of the arbitrator so appointed as per clause above or otherwise, they can appeal to Court. The courts situated in **Trivandrum alone** shall have jurisdiction to entertain such disputes.
46. The Converter should offer the quantity to be converted by them on a daily basis.
47. The Converter should offer free storage of SMP/WMP for 30 days and 15 days for butter/ghee to become eligible.
48. Rates payable to the Converter as stated in the contract shall be firm during the contract period. The contract rate means the finalized rate, payable to the Converter/Converter under the contract and also for the full & proper performance of the contractual obligations. On any other account increase/decrease in rate will not be allowed during the contract period.
49. The KCMMF/Unions, by written notice sent to the Converter, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the KCMMF/Unions convenience, the extent to which performance of the Converter under the Contract is terminated, and the date upon which such termination becomes effective.
50. The contract shall be valid for a period of 1 (One) year from the date of commencement of the contract. The rate quoted is applicable for one year & any changes in the rate within the contract period is not allowed

51. The KCMMF/Unions reserves the right to extend the contract period which shall be for a further period up to 90 days from the date of expiry.

52. The yield calculation of the product to be calculated in the following way

**For eg:**

**1.Butter Yield :**

10, 000 kgs of Milk with 4%Fat contains	400 kgs of fat ...	(1)
Fat handling loss at 2%	08 kg fat	. (2)
Difference of (1) & (2)	392 kg fat	----- (3)
Yield of Butter with 82.0% fat will be $(392/82.0\%) = 478.05$ kgs		

**2. Ghee Yield :**

10, 000 kgs of Milk with 4%Fat contains	400 kgs of fat ...	(1)
Fat handling loss at 3%	12 kg fat	. (2)
Difference of (1) & (2)	388 kg fat	----- (3)
Yield of Gheewith less than 0.3% Moisture & less than 1.4% FFA = 388 kgs		

**3. SMP/WMP Yield :**

10, 000 kgs of Milk with 8.5%SNF contains	850 kg SNF	..... (1)
SNF handling loss at 3.0%	25.50 kg SNF	..... (2)
Difference of (1) & (2)	824.50 kg SNF	---- (3)
Yield of SMP with 96.5% SNF will be - $(824.50/96.5\%) = 854.40$ kgs		

53. The converting plant shall have proper Dry godown facility for storage of SMP/WMP& proper Deep freeze facility for storage of Butter, such that the temperature of the Butter shall be Not more than  $-15^{\circ}\text{c}$ , at the time of lifting&insulated Storage Tanks for storing the Bulk Ghee.

54. The converter would store the converted SMP/WMP for 30 days free of cost and beyond 30 days would charge the storage charges which is fixed during the award of contract. The converter would store the converted BUTTER/GHEE for 15 days free of cost and beyond 15 days would charge the storage charges which is fixed during the award of contract.

55. The converter shall ensure that the quality of SMP/WMP/BUTTER/GHEE conforms to KCMMF standard as in **Annexure-III**.

56. The Converter shall hand over the converted stocks to KCMMF/Unions on receipt of conversion charges until such time it is the responsibility of the Converter to safeguard the products by adopting good storage practices. Product loss, if any, due to the unforeseen circumstances like fire, theft etc. shall be the responsibility of the Converter. The Converter shall arrange for the storage insurance for the product manufactured/stored.

57. In case the manufactured product do not conform to the specification laid down, the Converter shall make the replacement of



the product with good product at his own cost. Any batch of the converted product found rejected by the purchaser of the product due to poor quality the financial losses should be borne by the converter.

58. Converter shall undertake the conversion by following "Good Manufacturing Practices "and also maintain proper sanitary and hygienic conditions in the conversion, packing and storage of the product.
59. The converted products shall be packed in packing material with KCMMF art work with "MILMA" brand only. The packing material of "MILMA" brand shall not be used for packing of your products, and if any such incidents noticed by KCMMF action will be initiated as per the law of brand misuse.
60. The Converter shall ensure that product so manufactured shall have a shelf life of one year from the date of manufacturing.
61. The converter (Conversion Plant) shall follow the KCMMF guidelines for conversion operations as in **Annexure-II**.
62. Copies of Registration of firms with list of activities/GST tax registration certificate etc. should be enclosed as supporting document along with the offer submitted by them.

## Annexure - I

**Rate contract for conversion of Whole milk in to Butter and Skim  
Milk Powder.**

**PRICE QUOTE SCHEDULE In Rupees**

Sl. No.	PARTICULARS	Rate for Normal ISI powder in Rs. per Kg of Product	Rate for Agglomerated ISI powder in Rs. per Kg of Product	Rate for ISI Whole milk Powder Rs per kg	Rate for butter in Rs. per Kg of product	Rate for Ghee in Rs. per Kg
A	CONVERSION RATES: -					
1)	Conversion of Skimmed Milk/RCM to SMP. (Inclusive of Packing Materials, Packing charges & all applicable taxes)					
2)	Conversion of Whole Milk/RCM to WMP. (Inclusive of Packing Materials, Packing charges & all applicable taxes)					
3)	Conversion of Milk to White BUTTER (Inclusive of Packing Materials, Packing charges & all applicable taxes)					
4)	Conversion of Milk to Bulk Ghee (with & without packing containers, packing charges & all applicable taxes)	With packing in 15 kg Tins				
		With storage in Tanks (without packing in 15 kg Tins)				
B	STORAGE CHARGES: -	MT/MONTH (RS.)				
1)	SMP/WMP (First 30 days free)					
2)	WHITE BUTTER (First 15 days free)					
3)	BULK GHEE (first 15 days)					

**Note:-**

- i. Supply of packing materials for the converted products is mandatory on the part of the Converter. The technical specification for the same should be as per BIS standard.
- ii. The rates should be quoted separately for whole milk conversion with break-up of Basic Price, Packing & Forwarding, Transportation charges, Loading and unloading charges, Transit insurance, GST/IGST for supply, Unpacking, shifting and positioning charges, which should be totaled and mentioned in the Abstract of Price Quote Schedule.
- iii. The Converter shall furnish break up details for the above in a separate sheet for Price, GST/IGST, with the percentage.
- iv. All the rates should be only in terms of Indian Rupees.
- v. Phrases like `Extra', `as applicable', `at the prevailing rate' etc. should not be quoted to avoid ambiguity.

**Seal of the firm****Signature****Date:**

**ANNEXURE II****KCMMF GUIDELINES FOR CONVERSION OPERATION:-****1. Guidelines for the Conversion Operation.****1.1 Guidelines for the Conversion plants**

- a) Quantity and Quality of Milk : The quality and the quantity of raw Milk shall be checked as per the KCMMF Quality norms and guidelines prescribed hereunder by the party immediately after arrival of the tankers at the premises. The raw milk must be free from any adulterants as well as preservatives.
- b) Receipts/dispatches from Union and physical stock shall be intimated to KCMMF central office/Unions on daily basis.
- c) Quality Parameters: The Conversion party shall maintain all the records of testing of raw milk; online (in process) analysis and final products and these shall be made accessible to the KCMMF/Unions as and when required. Milk not meeting the prescribed standards shall be out rightly rejected.
- d) The Conversion party shall ensure the availability of all the manufacturing and testing facilities at the factory premises and maintain them properly including its calibration at regular interval, etc to ensure precision testing.
- e) The packing materials shall be procured by the conversion plants as per the specifications provided by the KCMMF with KCMMF artwork. Upon receiving of packaging materials, the same should be subjected to quality check at laboratory for all the prescribed quality parameters such as thickness, bursting strength, print etc and results shall be recorded in the concerned packaging test register.
- f) Conversion plants shall follow the set quality plan as per GMP, GHP and GLP to adhere to stringent quality practices to meet the requirements of KCMMF.
- g) Conversion plants shall bear the responsibility of ensuring the net quantity of SMP/WMP& White Butter/Bulk Ghee in bag and carton/Tank respectively.
- h) Conversion plant should have the facility to manufacture Powder from the milk sent for conversion
- i) Production of whole milk powder and dairy whitener is preferred and the Converter should quote separate rate for converting whole milk to whole milk powder/skimmed milk to dairy whitener along with custom packing charges.
- j) Conversion plants shall dispatch the commodities along with the Test Report for the batches being dispatched.

- k) Conversion plants shall follow the quality plan and guidelines of KCMMF, coding system of Batches, Traceability system and weighing system in manufacturing SMP/WMP& Butter/Ghee
- l) The products manufactured at the premises of conversion plants shall conform to KCMMF specifications. Conversion plants shall check online quality of the products being manufactured and accordingly segregate the products not meeting the quality parameters.
- m) Every batch of products to be dispatched shall get clearance from the officers of KCMMF or converting Unions deputed there before its dispatch.
- n) Surprise visits shall be made by KCMMF /Union officers. If the products do not conform to the quality standards of KCMMF during the testing by the KCMMF officers at the premises of conversion plants as well as finally at the KCMMF unions, the non-conforming products shall be sent back to the conversion plants and the conversion plants shall bear all the expenses incurred.
- o) White Butter shall be packed in 20 kg block in liners with corrugated boxes , SMP in 25 kg liner with kraft paper bags bearing the approved artworks of KCMMF,
- p) Ghee shall be stored in either the insulated Tanks or in the 15 kg Tins as per the requirement of the KCMMF/Unions. It will be informed to the converter well in advance by KCMMF/Unions.

**General Good Hygiene Practice and Good Manufacturing Practices :**

- i. Self closing door shall be provided at all products manufacturing and packing rooms.
- ii. Air curtain at the entrance shall be provided at all products manufacturing and packing rooms.
- iii. All exterior openings shall be provided with appropriate screens and curtains to prevent entry of insects, birds or animals.
- iv. Pest-o-flash shall be provided at appropriate places in all processing and packing room.
- v. Pest control system shall be in place in product storage room.
- vi. Good Hygiene condition of workers shall be maintained and mouth mask, head gears, hand gloves shall be provided.
- vii. Coding of Batch No. Conversion plant shall follow the coding system (ex A 01, where A is the Month January, 01 is the date or as directed by KCMMF from time to time).
- viii. Date of Manufacture (DOM), Batch No, Bag Bo shall be legibly written with marker/Printed on the bag.
- ix. Products shall be stored on pallets (preferably on plastic).

**Quality Plan for SMP Manufacturing**

Conversion Plants shall follow Quality plan of KCMMF for manufacturing SMP to meet the requirements of KCMMF. The quality plan is compiled based on the SOPs and GMP for manufacture of SMP to ensure the quality and safety of the product.

1. Wet cleaning schedule (at least once in a fortnight) depending upon the conditions of drying chamber.
2. CIP schedule for Milk tanks etc.
3. Batches that do not meet the specifications shall not be dispatched.

#### **Quality plan for Butter Manufacturing.**

Conversion plants shall follow the Quality plan of KCMMF for manufacturing butter to meet the requirements of KCMMF. The quality plan is compiled based on SOPs and GMP for manufacture of butter to ensure the quality and safety of the product.

1. Formulation of CIP schedule of churn, milk/cream tanks etc
2. CIP after every two batches or whenever there is gap from one batch to another batch. Utensils, trolleys etc to be cleaned along with CIP
3. Butter liner should be dipped in 50 ppm chlorine/iodophore/suitable effective disinfectant solution before use.
4. Weekly fumigation shall be carried out for butter packing and production areas. Air count shall be monitored weekly and the count shall be <20 cfu.
5. Stainless steel shovels to be used for putting butter into packing machine/cartons
6. Batches that do not meet the specifications shall not be dispatched.
7. After packing, butter cartons shall be shifted to Deep Freeze immediately. The temperature of Deep Freeze should be -18°C or below
8. Deep freeze shall be fumigated periodically.
9. At the time of dispatch, butter temperature shall be -15°C to -18°C or below.

#### **Quality plan for Ghee Manufacturing.**

Conversion plants shall follow the Quality plan of KCMMF for manufacturing Ghee to meet the requirements of KCMMF. The quality plan is compiled based on SOPs and GMP for manufacture of Ghee to ensure the quality and safety of the product.

1. Formulation of CIP schedule of Ghee melting Vats etc
2. CIP after every two batches or whenever there is gap from one batch to another batch.
3. Enough ventilation & vapour hood shall be made available in the Ghee melting room with enough lighting.
4. Batches that do not meet the specifications shall not be dispatched.
5. After packing in to 15 kg tins, Ghee shall be stored in cool & dry store room stacking on Pallets. In the case of Bulk Ghee, it shall be stored in clean insulated storage tanks.

### **Specifications of incoming Whole milk and Separated Skim milk.**

#### **Whole milk / Skim Milk quality to be supplied as under:**

1. Raw chilled with a minimum Fat % of 3.8 and 7.8 % SNF
2. Skim Milk will be Pasteurized / Normal Flavor
3. SNF in Skim milk will be above 8.2%
4. Acidity : 0.145 Max
5. Alcohol : 65% -Ve
6. HS : 0.5-Ve
7. Free from adulterants.
8. Temperature- Between 5-7<sup>0</sup> C
9. Sodium Content – 500 ppm Maximum

### **Annexure III**

#### **Specifications of Skimmed Milk Powder/Whole Milk Powder and Butter/Ghee**

**The method of sampling and testing for butter shall be carried out as per the IS 3507 (1966).**

#### **PRODUCT SPECIFICATION**

#### **SPECIFICATION FOR SKIMMED MILK POWDER**

SI. No.	PARAMETERS	KCMMF SPECIFICATION
1	Description	Light yellow/white in colour, free from lumps and free from extraneous matter, added colour and free from off flavor
2	Flavour	Pleasant and clean flavour, free from off flavour.
3	Milk Fat, percent by mass	Max. 1.5
4	Insolubility Index, ml	Max. 0.5
5	Moisture, percent by mass	Max. 3.5
6	Milk Protein in Milk Solids not fat, percent by mass	Min. 34.0
7	Total ash on dry matter basis %	Max. 8.2
8	Titrateable Acidity, ml of 0.1N NaOH/10 g of solids not fat	12 – 18 ml
9	Scorched Particles	Max. 15mg , equivalent to Disc B
10	Bulk Density	0.50 – 0.60
11	Preservatives, Adulterants & Neutralizers	Negative
12	Wettability	Not more than 1 minute
13	Sodium Content	550 mg/100 g, Max
14	Total Plate Count, per g	Max.30,000
15	Coliform Count per g	Max.10
16	E.Coli, per g	Absent
17	Salmonella, per 25 g	Absent
18	Staph aureus, per g (coagulase positive)	Max.10
19	Listeria Monocytogenes/g	Absent
20	Anaerobic Spore count/g (Clostridium perfringenes)	Max. 10
21	Aerobic Spore count/g (Bacillus cereus)	Max. 100

### SPECIFICATION FOR WHOLE MILK POWDER



SI. No.	PARAMETERS	KCMMF SPECIFICATION
1	Description	Light yellow/white in colour, free from lumps and free from extraneous matter, added colour and free from off flavor
2	Flavour	Pleasant and clean flavour, free from off flavour.
3	Milk Fat, percent by mass	Max. 26%
4	Insolubility Index, ml	Max. 2.0
5	Moisture, percent by mass	Max. 4.0
6	Milk Protein in Milk Solids not fat, percent by mass	Min. 34.0
7	Total ash on dry matter basis %	Max. 7.3
8	Titratable Acidity, ml of 0.1N NaOH/10 g of solids not fat	Max. 18 ml
9	Scorched Particles	Max. 15mg , equivalent to Disc B
10	Bulk Density	0.50 – 0.60
11	Preservatives, Adulterants & Neutralizers	Negative
12	Wettability	Not more than 1 minute
13	Sodium Content	550 mg/100 g, Max
14	Total Plate Count, per g	Max.50,000
15	Coliform Count per g	Max.50
16	E.Coli, per g	Absent
17	Salmonella, per 25 g	Absent
18	Staph aureus, per g (coagulase positive)	Max.10
19	Listeria Monocytogenes/g	Absent
20	Anaerobic Spore count/g (Clostridium perfringenes)	Max. 10
21	Aerobic Spore count/g (Bacillus cereus)	Max. 100

### SPECIFICATION FOR GHEE

SI. No.	PARAMETERS	KCMMF SPECIFICATION
1	Description	Pure clarified Fat with yellow in colour, free from residues and free from extraneous matter, free from added colour and free from off flavor.
2	Flavour	Pleasant and fat rich flavour.
3	Milk Fat, percent by mass	Min. 99 – 99.5%
4	Moisture, percent by mass	Max. 0.5
5	FFA as Oleic Acid, percentage by mass	Max. 2.8
6	Preservatives, Adulterants & Neutralizers	Negative
7	BR Reading Value at 40 Deg C	42-43
8	RM Value	Min. 28
9	Polenske Value	1-2
10	Baudouin	Negative
11	Phytosterol Acetate	Negative

## SPECIFICATION FOR WHITE BUTTER

<b>Sl. No.</b>	<b>PARAMETERS</b>	<b>KCMMF SPECIFICATION</b>
1	Description	Yellow in colour, free from residues and free from extraneous matter, free from added colour and free from off flavor.
2	Flavour	Pleasant and fresh fat rich flavor without rancidity.
3	Milk Fat, percent by mass	Min. 80%
4	Moisture, percent by mass	Max. 16%
5	Acidity, percentage by mass	Max.0.25-0.30
6	Preservatives, Adulterants & Neutralizers	Negative
7	Curd Particles, percentage by mass	Max. 1.5%
8	Coliform Count per gm	Max. 10
9	Yeast & Mould Count per gm	Max.20