

CERTIFICATE FOR SHOCK-FROZEN CERTIFIED REFERENCE MATERIAL

Version 1

Batch Raw milk Jan-2024
Intended use FTIR analysis and reference methods

Type	A0	A1	B	C	30
Fat	5,668	6,425	4,498	2,781	1,354
<i>Fat, U (abs)</i>	<i>0,084</i>	<i>0,062</i>	<i>0,067</i>	<i>0,056</i>	<i>0,049</i>
Protein	4,559	4,443	3,553	3,785	3,766
<i>Protein, U (abs)</i>	<i>0,087</i>	<i>0,090</i>	<i>0,046</i>	<i>0,072</i>	<i>0,059</i>
Lactose	4,657	4,519	4,773	4,809	4,871
<i>Lactose, U (abs)</i>	<i>0,253</i>	<i>0,256</i>	<i>0,251</i>	<i>0,162</i>	<i>0,193</i>
Dry Matter	15,777	16,358	13,645	12,201	10,825
<i>Dry Matter, U (abs)</i>	<i>0,207</i>	<i>0,130</i>	<i>0,233</i>	<i>0,278</i>	<i>0,190</i>
*Casein	3,615	3,570	2,795		
<i>Casein U (abs)</i>	<i>0,180</i>	<i>0,180</i>	<i>0,180</i>		
*Freezing Point			-0,518		
<i>Freezing Point U (abs)</i>			<i>0,003</i>		

* = Indicative values

REFERENCE

Fat ISO 1211:2010, Röse Gottlieb
Protein ISO 8968-1:2014, Kjeldahl
Lactose, mono ISO 22662:2017, HPLC - AOAC 982.14, HPLC - ISO 5765:2002, Enzymatic
Dry Matter ISO 6731:2010, Gravimetric
Casein ISO 17997-1:2004, Kjeldahl (calculation)
Freezing Point ISO 5764:2009, Cryoscope

Production month: Jan-2024
Valid until: Jan-2025

Approval date: 13-02-2024

Approved by: 
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CRM Responsible

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INFORMATION REGARDING THE CERTIFIED REFERENCE MATERIAL (CRM)

Description
Shock-Frozen Danish Raw Milk.

The certified reference values are calculated based on accredited reference method results. For fat, protein, and dry matter, the CRM reference values comprise results from seven laboratories. For lactose, the CRM reference values comprise results from five laboratories. Casein and freezing point values are determined by one laboratory.

Homogeneity is evaluated using the individual results from each laboratory and FTIR analysis values from Eurofins Milk Testing Denmark. Stability is evaluated based on FTIR analysis results from Eurofins Milk Testing Denmark.

The CRM reference values are statistically evaluated using Grubbs's Outlier Test.

Instructions for Handling and Use
The samples are thawed in a water bath to reach a temperature of 40±1°C in approximately 50 minutes. Gently invert the samples 20-30 times and confirm that the sample material looks like natural raw milk. The samples are now ready for analysis on an FTIR instrument or can be used as standard by reference methods. If the samples need cooling before use, do this in a tempered water bath. The samples must not be stored and reused.

Sample Size
One vial contains 50 mL of sample material.

Validity Period
1 year at -18°C to -20°C.

Storage Information
Store at -18°C to -20°C until use.

Information
If there are any relevant observations regarding the samples, please contact Eurofins Milk Testing Denmark. E-mail: calibration@ftn.eurofins.com