

ISO 8968-4:2016-04 (E)

Milk and milk products - Determination of nitrogen content - Part 4: Determination of protein and non-protein nitrogen content and true protein content calculation (Reference method)

Contents		Page
Forewords		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	1
4.1	Indirect protein nitrogen	1
4.2	Direct protein nitrogen	2
5	Reagents	2
5.1	General	2
5.2	Trichloroacetic acid (CCl ₃ COOH) solution	2
5.3	Hydrochloric acid standard volumetric solution	2
6	Apparatus	2
7	Sampling	3
8	Preparation of test sample	3
9	Procedure — Direct protein nitrogen approach	3
9.1	Test portion	3
9.2	Determination	3
9.2.1	Precipitation and filtration	3
9.2.2	Preparation of the precipitate	4
9.2.3	Digestion and distillation	4
9.2.4	Titration	4
9.3	Blank test	4
9.4	Calculation and expression of results	4
9.4.1	Calculation of protein nitrogen content	4
9.4.2	Expression of results	5
9.4.3	Calculation of true protein content	5
9.4.4	Expression of the true protein content results	5
10	Procedure — Indirect protein nitrogen approach	6
10.1	Nitrogen determination	6
10.2	Non-protein nitrogen determination	6
10.2.1	Test portion	6
10.2.2	Precipitation and filtration	6
10.2.3	Preparation of the filtrate	6
10.2.4	Digestion and distillation	6
10.2.5	Titration	6
10.3	Blank test	6
10.4	Calculation and expression of results	7
10.4.1	Calculation of non-protein nitrogen content	7
10.4.2	Calculation of protein nitrogen content	7
10.4.3	Expression of results	8
10.4.4	Calculation of true protein content	8
10.4.5	Expression of the true protein content results	8

11	Precision	8
11.1	Interlaboratory test.....	8
11.2	Repeatability.....	8
11.3	Reproducibility	8
12	Test report	9
Annex A (informative)	Results of a collaborative study — Estimation of precision data of direct and indirect methods for the true protein determination	10
Bibliography		11