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Milk and milk products — Determination of alkaline phosphatase activity —

Part 2: Fluorimetric method for cheese

Lait et produits laitiers — Détermination de l'activité de la phosphatase alcaline —

Partie 2: Méthode fluorimétrique pour le fromage

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Contents

Page

Forewords ... **iv**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Principle ... **1**
5 Reagents ... **2**
6 Apparatus ... **3**
7 Sampling ... **4**
8 Preparation of test sample ... **4**
9 Procedure ... **5**
9.1 Verification of instrument performance ... 5
9.1.1 General ... 5
9.1.2 Daily instrument tests ... 5
9.1.3 Using FLM200 ... 5
9.1.4 Using FLM300 ... 5
9.1.5 Controls ... 6
9.2 Reagent controls to test the suitability of ready-to-use working substrate (5.3) ... 6
9.3 Calibration ... 6
9.3.1 General ... 6
9.3.2 Using FLM200 ... 7
9.3.3 Using FLM300 ... 7
9.4 Determination ... 7
9.5 Test-sample-related controls ... 8
9.5.1 Recommended negative and positive control tests ... 8
9.5.2 Interfering substance test ... 9
9.5.3 Heat-stable microbial ALP control test ... 9
10 Calculation and expression of results ... **9**
10.1 Calibration ratio ... 9
10.2 Calculation ... 10
10.2.1 Supernatant ... 10
10.2.2 Cheese ... 10
10.3 Expression of test results ... 10
11 Precision ... **11**
11.1 Interlaboratory study ... 11
11.2 Repeatability ... 11
11.3 Reproducibility ... 11
12 Test report ... **11**
Annex A (informative) **Interlaboratory study** ... **12**
Annex B (informative) **Examples of preparation of a test sample** ... **14**
Bibliography ... **16**

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Forewords

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This third edition cancels and replaces the second edition (ISO 11816-2 | IDF 155-2:2016), which has been technically revised.

The main changes are as follows:

— the FLM200 instrument (which has been discontinued) has been replaced by the FLM300 version;

— the instructions for use of the instrument and the flow of those instructions have been revised in accordance with FLM300, which has an upgraded user interface and electronics (there has been no change to the assay or the test procedure with the changes to the interface and software);

— the instrument now includes the heater block which was a separate item previously.

A list of all parts in the ISO 11816 | IDF 155 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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IDF (the International Dairy Federation) is a non-profit private sector organization representing the interests of various stakeholders in dairying at the global level. IDF members are organized in National Committees, which are national associations composed of representatives of dairy-related national interest groups including dairy farmers, dairy processing industry, dairy suppliers, academics and governments/ food control authorities.

ISO and IDF collaborate closely on all matters of standardization relating to methods of analysis and sampling for milk and milk products. Since 2001, ISO and IDF jointly publish their International Standards using the logos and reference numbers of both organizations.

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Milk and milk products — Determination of alkaline phosphatase activity —

Part 2:
Fluorimetric method for cheese

1 Scope

This document specifies a fluorimetric method for the determination of alkaline phosphatase (ALP) (EC 3.1.3.1) activity in cheese.

This method is applicable to soft cheeses, semi-hard and hard cheeses provided that the mould is only on the surface of the cheese and not also in the inner part (e.g. blue veined cheeses). For large hard cheeses, specific conditions of sampling apply (see Clause 7).

The instrument used for the determination of ALP can read activities in the supernatant up to 7 000 milliunits per litre (mU/kg).

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
alkaline phosphatase activity
ALP activity
activity of the enzyme present in the product, determined by the specified procedure

Note 1 to entry: The ALP activity is expressed as milliunits of enzyme activity per gram of sample (mU/kg).

4 Principle

The ALP activity of the sample is measured by a continuous fluorimetric direct kinetic assay. A non-fluorescent aromatic monophosphoric ester substrate, 2′-[2-benzothiazolyl]-6′-hydroxybenzothiazole phosphate, in the presence of any ALP derived from the sample, undergoes hydrolysis of its phosphate radical, producing a highly fluorescent product. Fluorimetric measurement of ALP activity is measured at

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