SLOVENSKI STANDARD
SIST EN ISO 13904:2016

01-maj-2016

Nadomešča:
SIST EN ISO 13904:2005

Krma - Določevanje triptofana (ISO 13904:2016)

Animal feeding stuffs - Determination of tryptophan content (ISO 13904:2016)

Futtermittel - Bestimmung des Tryptophangehalts (ISO 13904:2016)

iTeh STANDARD PREVIEW

Aliments des animaux - Détermination de la teneur en tryptophane (ISO 13904:2016)

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Ta slovenski standard je istoveten z: EN ISO 13904:2016

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ICS:

65.120	Krmila	Animal feeding stuffs

SIST EN ISO 13904:2016 **en**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13904

March 2016

ICS 65.120

Supersedes EN ISO 13904:2005

English Version

Animal feeding stuffs - Determination of tryptophan content (ISO 13904:2016)

Aliments des animaux - Dosage du tryptophane (ISO 13904:2016)

Futtermittel - Bestimmung des Tryptophangehalts (ISO 13904:2016)

This European Standard was approved by CEN on 30 January 2016.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN ISO 13904:2016) has been prepared by Technical Committee ISO/TC 34 “Food products" in collaboration with Technical Committee CEN/TC 327 “Animal feeding stuffs - Methods of sampling and analysis” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 13904:2005.

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INTERNATIONAL STANDARD

ISO 13904

Second edition
2016-02-15

Animal feeding stuffs — Determination of tryptophan content

Aliments des animaux — Dosage du tryptophane

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

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The committee responsible for this document is ISO/TC 34, *Food products*, Subcommittee SC 10, *Animal feeding stuffs*.

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This second edition cancels and replaces the first edition (ISO 13904:2005), which has been technically revised.

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Animal feeding stuffs — Determination of tryptophan content

1 Scope

This International Standard specifies a method for determination of the total and free tryptophan (Trp) content in feeding stuffs (e.g. complete and complementary feeds, supplementary feeds, raw materials, ingredients, and concentrates) and determination of free tryptophan in commercial pure substances and premixtures containing more than 2 % of tryptophan.

It does not distinguish between D- and L-forms.

2 Principle

For the determination of the total tryptophan, the sample is hydrolysed under alkaline conditions with saturated barium hydroxide solution and heated to 110 °C for 20 h. After hydrolysis, an internal standard is added.

For the determination of free tryptophan, the sample is extracted under mild acidic conditions in the presence of an internal standard. For commercial pure substances and premixtures containing more than 2 % of tryptophan, it is possible to add the internal standard after the extraction.

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The tryptophan and the internal standard in the hydrolysate or in the extract are determined by reversed phase C_{18} HPLC with fluorescence detection.

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3 Reagents and materials

Use only reagents of recognized analytical grade, unless otherwise specified.

3.1 Double-distilled water, or water of equivalent purity (conductivity <10 μS/cm).

3.2 Standard substance and control substance: tryptophan (purity ≥99 %) dried under vacuum over phosphorus pentoxide.

The two products are considered as 100 % pure. Control substance shall come from another manufacturer than the standard substance (see 3.17.2).

NOTE The control of the purity of the standard substance can be performed by measuring the absorbance of a solution of tryptophan at 280 nm. Prepare a solution of about 5 mg/l in HCl 10^{-3} N from a stock solution and measure the Optical Density (OD) at 280 nm versus HCl 10^{-3} N. Then, the concentration of tryptophan is:

$C = OD/5\,630 * 10^{+06}$

where

5 630 is the molar extinction coefficient of tryptophan in water at 280 nm;

C is expressed in μmole/l.

The standard substance purity is then $(C/C_0)*100$ where C_0 is the theoretical concentration of the diluted solution, expressed in μmole/l (about 25 μmole/l).

The control of the purity is performed every 6 months of use; it shall be ≥99 %.

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