
**Modified starch — Determination of content
of carboxymethyl groups in carboxymethyl
starch**

*Amidons et féculles modifiés — Détermination des groupes
carboxyméthyles dans l'amidon carboxyméthylé*



Foreword

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International Standard ISO 11216 was prepared by Technical Committee ISO/TC 93, *Starch (including derivatives and by-products)*.

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Modified starch — Determination of content of carboxymethyl groups in carboxymethyl starch

1 Scope

This International Standard specifies a method for the determination of the content of carboxymethyl groups in carboxymethyl starch. The method is suitable for determining carboxymethyl group contents between 1,6 % (*m/m*) and 10,0 % (*m/m*).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of the publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on the International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1666:1996, *Starch — Determination of moisture content — Oven-drying method*.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1

carboxymethyl group content

mass of carboxymethyl groups in the acid form divided by the mass of the test portion of carboxymethyl starch in the acid form

NOTE The carboxymethyl group content is expressed as a percentage by mass.

4 Principle

The carboxymethyl groups are converted into the acid form by acidifying a solution or a suspension of the starch with hydrochloric acid. After the starch is precipitated with methanol, it is allowed to settle before being filtered off on a sintered glass crucible. The excess acid is completely removed by washing with methanol. The starch is dried and a weighed portion is treated with a measured excess of sodium hydroxide solution. The sodium hydroxide not used by the sample is back-titrated with hydrochloric acid.