

---

# International Standard



# 5377

---

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

---

## Starch hydrolysis products — Determination of reducing power and dextrose equivalent — Lane and Eynon constant titre method

*Produits d'hydrolyse de l'amidon ou de la fécule — Détermination du pouvoir réducteur et de l'équivalent en dextrose — Méthode Lane et Eynon à titre constant*

First edition — 1981-12-15

Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)

---

UDC 664.28 : 664.162.036 : 543.24

Ref. No. ISO 5377-1981 (E)

Descriptors : starches, tests, determination, mass losses, dry matter, titration.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5377 was developed by Technical Committee ISO/TC 93, *Starch (including derivatives and by-products)*, and was circulated to the member bodies in November 1980.

It has been approved by the member bodies of the following countries :

Australia	Netherlands
Austria	Romania
Egypt, Arab Rep. of	South Africa, Rep. of
France	USA
Iran	USSR

No member body expressed disapproval of the document.

# Starch hydrolysis products — Determination of reducing power and dextrose equivalent — Lane and Eynon constant titre method

## 1 Scope and field of application

This International Standard specifies a Lane and Eynon constant titre method for the determination of the reducing power and dextrose equivalent of all starch hydrolysis products.

## 2 References

ISO 385/1, *Laboratory glassware — Burettes — Part 1: General requirements.*<sup>1)</sup>

ISO 385/2, *Laboratory glassware — Part 2: Burettes for which no waiting time is specified.*<sup>1)</sup>

ISO 648, *Laboratory glassware — One-mark pipettes.*

ISO 1042, *Laboratory glassware — One-mark volumetric flasks.*

ISO 1741, *Dextrose — Determination of loss in mass on drying — Vacuum oven method.*

ISO 1742, *Glucose syrup — Determination of dry matter content — Vacuum oven method.*

ISO 1743, *Glucose syrup and dextrose — Determination of dry matter content — Refractive index method.*

ISO 1773, *Laboratory glassware — Boiling flasks (narrow-necked).*

ISO 5809, *Starch, including derivatives and by-products — Determination of sulphated ash.*<sup>2)</sup>

## 3 Definitions

**3.1 reducing power** : The content of reducing sugars, expressed as the number of grams of anhydrous D-glucose per 100 g of the sample, when determined by the method specified in this International Standard.

**3.2 dextrose equivalent** : The content of reducing sugars, expressed as the number of grams of anhydrous D-glucose per 100 g of the dry matter in the sample, when determined by the method specified in this International Standard.

## 4 Principle

Titration of a prescribed volume of mixed Fehling's solution with a solution of a test portion under specified conditions, using methylene blue as internal indicator.

## 5 Reagents

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

### 5.1 Fehling's stock solutions

Prepare the following solutions, using apparatus in accordance with clause 6.

#### 5.1.1 Stock solution A

Copper(II) sulphate pentahydrate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ )	69,3 g
Water to	1 000,0 ml

#### 5.1.2 Stock solution B

Potassium sodium tartrate tetrahydrate ( $\text{KNaC}_4\text{H}_4\text{O}_6 \cdot 4\text{H}_2\text{O}$ )	346,0 g
Sodium hydroxide (NaOH)	100,0 g
Water to	1 000,0 ml

Before use, decant the clear solution from any sediment that may form.

#### 5.1.3 Mixed Fehling's solution

Transfer into a dry stock glass bottle, in the following order, 100 ml of solution A (5.1.1) and 100 ml of solution B (5.1.2). Mix well.

NOTE — Do not keep Fehling's solution. Prepare this mixed solution just before use and standardize it as specified in 7.1.

1) At present at the stage of draft. (Revision, in part, of ISO/R 385.)

2) At present at the stage of draft.