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AMENDMENT 1
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Bleached lac — Specification

AMENDMENT 1

Gomme laque blanche — Spécification

AMENDEMENT 1

Reference number
ISO 57:1975/Amd.1:1996(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Amendment 1 to International Standard ISO 57:1975 was prepared by Technical Committee ISO/TC 50, *Lac*.

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Bleached lac — Specification

AMENDMENT 1

Page 8, subclause B.2.4.4.1, penultimate line

Correct the spelling of "draugths" to "draughts".

Page 14, subclause E.1.1

Replace the last sentence with the following:

Alternatively, heat in a muffle furnace at 650 °C to 700 °C until constant mass is obtained.

Page 14, subclause F.1.5

Add the following note after F.1.5:

NOTE — The solution should preferably be stored in amber-coloured bottles.

Page 18, clause L.2

Add a new paragraph at the end of clause L.2:

Alternatively, a potentiometric method may be used.

Page 21, Annex P

Replace the text of the existing annex with the following:

P.1 General

The lead content of bleached lac can be determined by either of the two methods described below. However, in case of dispute, method B may be used as the referee method for determination of lead.

P.2 Method A

Renumber clauses P.1 to P.4 as P.2.1, P.2.2, P.2.2.1, P.2.2.2, P.2.2.3, P.2.2.4, P.2.2.5, P.2.2.6, P.2.2.7, P.2.2.8, P.2.2.9, P.2.2.9.1, P.2.2.9.2, P.2.2.10, P.2.2.11, P.2.3, P.2.3.1, P.2.3.2, P.2.3.3, P.2.3.4, P.2.3.5 and P.2.4 respectively.

P.3 Method B — Atomic absorption spectrometric method

P.3.1 Principle

The sample is brought into solution by suitable treatment with acid or acid combinations, diluted with distilled water, filtered and suitable dilutions made for aspiration into the air + acetylene flame of an atomic absorption spectrometer. A standard solution is prepared in the same way, for calibration purposes. The wavelength most sensitive to lead absorption is 217,0 nm. However other lines, more suitable for high concentrations, can also be used.

P.3.2 Apparatus

P.3.2.1 Atomic absorption spectrometer, provided with a background corrector and having the following characteristics:

a) Lamp current: depending on the lamp and instrument used
b) Support: air
c) Fuel: acetylene
d) Flame stoichiometry: oxidizing
e) Wavelength and working range:

Wavelength nm	Bandpass nm	Working range g/ml
217,0	1,0	5 to 20
283,3	0,2	10 to 40
261,4	0,2	200 to 800
202,2	0,2	250 to 1 000
205,3	0,2	2 000 to 8 000

NOTE — In the case of a multielement hollow-cathode lamp containing copper, the second most sensitive wavelength for lead, that is 283,3 nm, may be used to avoid interference of copper absorption.

P.3.3 Reagents

P.3.3.1 Lead metal, 99,99 % pure.

P.3.3.2 Concentrated nitric acid.

P.3.3.3 Concentrated hydrochloric acid.

P.3.3.4 Standard lead solution.

Dissolve 1,0 g of lead (P.3.3.1) in 1:1 nitric acid (P.3.3.2), dilute to one litre with distilled water.

P.3.4 Sample preparation

A suitable quantity of bleached lac sample is dissolved in hydrochloric acid or a mixture of hydrochloric acid and nitric acid, evaporated to dryness, again dissolved in hydrochloric acid, diluted, filtered and made up to known volume. A suitable dilution is made for the determination of lead before aspirating in the atomic absorption flame. The sample solution should be concentrated by ion exchange or by solvent extraction if lead is expected to be present in very low quantities.

P.3.5 Procedure

Optimize the response of the spectrometer by adjusting the burner height and flame. Aspirate water to determine zero absorption; when a stable response is observed, aspirate standard solutions (at least four) and record the absorption.

Aspirate sample to determine the absorption of the sample. Prepare a calibration curve by plotting the net absorption values of the standards against their concentrations, in grams of lead per millilitre of solution. Locate the sample absorption on the prepared curve and calculate the concentration of lead in the sample.

P.3.6 Calculation

Lead, expressed as percent mass fraction = $\frac{c \times V}{10^6} \times \frac{100}{m}$

where

c is the concentration of lead, in grams per millilitre, in the final solution;

V is the volume, in millilitres, of final solution;

m is the mass, in grams, of sample in the final solution.

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