A-20-11

INTERNATIONAL STANDARD ISO 2525

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

Adipate esters for industrial use — Determination of acidity to phenolphthalein — Volumetric method

Esters de l'acide adipique à usage industriel — Détermination de l'acidité à la phénolphtaléine — Méthode volumétrique

First edition — 1974-04-01

UDC 661.732.9 : 543.241 **Ref. No. ISO 2525-1974 (E)**

Descriptors : esters, adipates, tests, chemical tests, acidity, measurement, volumetric analysis.

Price based on 2 pages

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 2525 was drawn up by Technical Committee ISO/TC 47, *Chemistry*, and circulated to the Member Bodies in September 1971.

It has been approved by the Member Bodies of the following countries :

Austria	Ireland	Switzerland
Belgium	Israel	Thailand
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	Poland	U.S.A.
Germany	Romania	U.S.S.R.
Hungary	South Africa, Rep. of	
India	Spain	

No Member Body expressed disapproval of the document.

Printed in Switzerland

INTERNATIONAL STANDARD ISO 2525-1974 (E)

Adipate esters for industrial use — Determination of acidity to phenolphthalein — Volumetric method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a volumetric method for the determination of acidity to phenolphthalein of adipate esters for industrial use.

The method is applicable to simple and mixed alcohol esters that are liquid at ambient temperature.

2 PRINCIPLE

Titration of the acidity using a standard volumetric solution of sodium hydroxide in the presence of phenolphthalein.

3 REAGENTS

Distilled water, or water of equivalent purity, shall be used in the test.

3.1 Sodium hydroxide, 0,1 N standard volumetric solution.

3.2 Ethanol, 95 % (*V*/*V*).

3.3 Phenolphthalein, 10 g/l ethanolic solution.

Dissolve 1,0 g of phenolphthalein in 100 ml of the ethanol (3.2) and make faintly pink by the addition of dilute sodium hydroxide solution.

4 APPARATUS

Ordinary laboratory apparatus and

4.1 Conical flask, of borosilicate glass, capacity 250 ml, fitted with a stopper carrying a soda-lime tube.

4.2 Burette, graduated in 0,02 ml or smaller divisions.

5 PROCEDURE

5.1 Test portion

Weigh, to the nearest 0,5 g, about 50 g of the laboratory sample.

5.2 Determination

Place 50 ml of the ethanol (3.2) in the conical flask (4.1), add 0,5 ml of the phenolphthalein solution (3.3) and make faintly pink by the addition of the sodium hydroxide solution (3.1). Add the test portion (5.1) and titrate the mixture with the sodium hydroxide solution (3.1) until the pink colour remains for 5 s.

6 EXPRESSION OF RESULTS

Acidity, expressed as a percentage by mass of adipic acid [$COOH(CH_2)_4COOH$], is given by the formula

$$\frac{0{,}73\ V}{m} = A$$

or, expressed as milli-equivalents per kilogram, by the formula

$$\frac{100\ V}{m} = B$$

where

V is the volume, in millilitres, of the sodium hydroxide solution (3.1) used for the titration;

m is the mass, in grams, of the test portion.

7 TEST REPORT

The test report shall include the following particulars :

a) the reference of the method used;

b) the results and the method of expression used;

c) any unusual features noted during the determination;

d) any operation not included in this International Standard or regarded as optional.

ANNEX

This document forms one of a series on methods of test for adipate esters for industrial use.

The list of documents already prepared is as follows :

ISO 2523 — *List of methods of test.*

ISO 2524 — *Measurement of colour after heat treatment.*

ISO 2525 — *Determination of acidity to phenolphthalein — Volumetric method.*

ISO 2526 — *Determination of ash — Gravimetric method.*

ISO 2527 — *Determination of ester content — Volumetric method.*