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INTERNATIONAL STANDARD ISO 1385/I

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Phthalate esters for industrial use — Methods of test — Part I : General

Phtalates à usage industriel — Méthodes d'essai — Partie I : Généralités

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Descriptors : phthalates, tests, chemical analysis, determination, colouring, ash, acidity, esters, iodine number, refractivity, flash point, viscosity.

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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.

Prior to 1972, the results of the work of the technical committees were published as ISO Recommendations; these documents are in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 47, *Chemistry*, has reviewed ISO Recommendation R 1385-1970 and found it technically suitable for transformation. The technical committee, however, divided the Recommendation into five parts (ISO 1385 Parts I to V), which therefore replace ISO Recommendation R 1385-1970, to which they are technically identical.

ISO Recommendation R 1385 had been approved by the member bodies of the following countries :

Austria	Iran	Romania
Belgium	Ireland	South Africa, Rep. of
Brazil	Italy	Spain
Cuba	Japan	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
France	Netherlands	Thailand
Germany	New Zealand	Turkey
Hungary	Poland	United Kingdom
India	Portugal	U.S.S.R.

No member body had expressed disapproval of the Recommendation.

The member bodies of the following countries disapproved the transformation of the Recommendation into an International Standard :

France
Netherlands

Printed in Switzerland

Phthalate esters for industrial use — Methods of test — Part I : General

1 SCOPE AND FIELD OF APPLICATION

This part of ISO 1385 gives general instructions relating to methods of test for certain phthalate esters for industrial use. It also specifies the methods to be used for the following tests :

- measurement of colour;
- determination of density at 20 °C;
- determination of water content;
- determination of iodine value (applicable only to diallyl phthalate);
- determination of refractive index;
- determination of flash point;
- determination of viscosity (not applicable to diallyl phthalate).

It is applicable to the following products (except as indicated above) :

dimethyl phthalate	diheptyl phthalates
diethyl phthalate	dioctyl phthalates
di-isopropyl phthalate	dinonyl phthalates
diallyl phthalate	didecyl phthalates
di-isobutyl phthalate	ditridecyl phthalates
di-*n*-butyl phthalate	dibutoxyethyl phthalate
dihexyl phthalates	benzyl butyl phthalate

The present list of parts of ISO 1385 is given in the annex.

2 REFERENCES

ISO/R 150, *Raw, refined and boiled linseed oil.*

ISO 758, *Liquid chemical products for industrial use — Determination of density at 20 °C.*

ISO 760, *Determination of water content — Karl Fischer method.*

ISO 2211, *Liquid chemical products — Measurement of colour in Hazen units (platinum-cobalt scale).*

ISO 2592, *Petroleum products — Determination of flash and fire points — Cleveland open-cup method.*

ISO 3104, *Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity.*

ISO . . ., *Liquid chemical products for industrial use — Sampling.* [1)]

3 SAMPLING

Sample in accordance with ISO . . . Additionally, the laboratory sample shall have a volume of not less than 500 ml. It shall be preserved in a clean, dry, airtight, glass-stoppered bottle of such a size that it is nearly filled by the sample and shall be stored in the dark.

If it has been necessary to seal the container, care shall be taken to avoid contaminating the contents in any way.

4 MEASUREMENT OF COLOUR

Use the method specified in ISO 2211.

5 DETERMINATION OF DENSITY AT 20 °C

Use the method specified in ISO 758.

6 DETERMINATION OF WATER CONTENT

Use any of the methods specified in ISO 760, on a test portion of 20 ml of the laboratory sample.

7 DETERMINATION OF IODINE VALUE

(applicable only to diallyl phthalate)

Use the method specified in clause A.7 of annex A of ISO/R 150.

8 DETERMINATION OF REFRACTIVE INDEX

Use a refractometer that enables the refractive index for the sodium D line at 20 ± 2 °C to be determined to four decimal places.

1) In preparation.

9 DETERMINATION OF FLASH POINT

Use either an open-cup Pensky-Martens apparatus or the Cleveland open-cup method specified in ISO 2592.

10 DETERMINATION OF VISCOSITY

(not applicable to diallyl phthalate)

Use the method specified in ISO 3104 and an apparatus that enables the dynamic viscosity to be calculated to an accuracy of 1 mPa·s (1 cP) at an agreed temperature controlled to within 0,05 °C.

11 TEST REPORT

The test report for each determination 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 the relevant part of ISO 1385 or in the other International Standards to which reference is made, or regarded as optional.

ANNEX

ISO PUBLICATIONS RELATING TO PHTHALATE ESTERS FOR INDUSTRIAL USE

ISO 1385/I — General.*

ISO 1385/II — Measurement of colour after heat treatment (Diallyl phthalate excluded).

ISO 1385/III — Determination of ash.

ISO 1385/IV — Determination of acidity to phenolphthalein — Titrimetric method.

ISO 1385/V — Determination of ester content — Titrimetric method after saponification.

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* The determination of the iodine value specified in ISO 1385/I is applicable only to diallyl phthalate.
The determination of the viscosity specified in ISO 1385/I is not applicable to diallyl phthalate.