
International Standard 1516

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

Paints, varnishes, petroleum and related products — Flash/no flash test — Closed cup equilibrium method

Peintures, vernis, produits pétroliers et assimilés — Essai de point d'éclair par tout ou rien — Méthode à l'équilibre en vase clos

Second edition — 1981-07-01

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 1516 was developed jointly by Technical Committees ISO/TC 35, *Paints and varnishes*, and ISO/TC 28, *Petroleum products and lubricants*, and was circulated to the member bodies in July 1979.

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

Australia	Hungary	Romania
Austria	India	South Africa, Rep. of
Brazil	Israel	Sweden
Canada	Italy	Switzerland
Chile	Kenya	United Kingdom
China	Korea, Rep. of	USA
Egypt, Arab Rep. of	Netherlands	USSR
France	New Zealand	
Germany, F.R.	Poland	

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (i.e. ISO 1516-1973).

Paints, varnishes, petroleum and related products — Flash/no flash test — Closed cup equilibrium method

0 Introduction

This International Standard sets out one of two methods for carrying out the flash/no flash test for paints, varnishes, petroleum and related products, and it should be read in conjunction with ISO 3680 when selecting a method.

This method of test does not determine the flashpoint of the product under test, but merely its behaviour at the selected equilibrium temperature as may be required to comply with laws or regulations relating to the storage, transport and use of flammable products. For this purpose it is unnecessary to determine the exact flashpoint but it is necessary to determine whether or not flashing occurs at a single given temperature. By the procedure specified, differences between test apparatus of various standard designs are minimized by ensuring that the test is carried out only when the product under test and the air/vapour mixture above it in the test vessel are exactly in temperature equilibrium.

NOTE — The determination of the exact flashpoint using the same equipment is given in ISO 1523.

1 Scope and field of application

This International Standard specifies a method to determine if a flammable material such as a paint, varnish, paint binder, solvent, petroleum or a related product, when maintained at a selected equilibrium temperature and under the conditions of the test, gives off sufficient flammable vapour at this temperature to cause ignition on application of an external source of flame applied in a standard manner.

The method is suitable for use over the temperature range 5 to 65 °C, although some of the apparatus listed in annex A cannot

cover all of this range using the thermometer supplied with the apparatus. The procedure also makes allowance for deviations from standard atmospheric pressure.

2 References

ISO 1512, *Paints and varnishes — Sampling*.

ISO 1513, *Paints and varnishes — Examination and preparation of samples for testing*.

ISO 1523, *Paints, varnishes, petroleum and related products — Determination of flashpoint — Closed cup equilibrium method*.¹⁾

ISO 3170, *Petroleum products — Liquid hydrocarbons — Manual sampling*.

ISO 3171, *Petroleum products — Liquid hydrocarbons — Automatic pipeline sampling*.

ISO 3680, *Paints, varnishes, petroleum and related products — Flash/no flash test — Rapid equilibrium method*.

3 Principle

The test portion is heated in a suitably designed closed cup in a suitable water-bath. The ignition trial is carried out after the test portion has been maintained under equilibrium conditions for at least 10 min at the selected equilibrium temperature. This procedure ensures that the air/vapour space above the test portion has attained the saturation concentration of flammable vapour before the ignition trial is performed. The test report records whether the test portion flashed or did not flash.

1) At present at the stage of draft. (Revision of ISO 1523-1973.)