SLOVENSKI STANDARD
SIST EN ISO 4619:2012

01-januar-2012

Sušilniki za barve in lake (ISO 4619:1998)

Driers for paints and varnishes (ISO 4619:1998)

Trockenstoffe für Beschichtungsstoffe (ISO 4619:1998)

Siccatifs pour peintures et vernis (ISO 4619:1998)

Ta slovenski standard je istoveten z: **EN ISO 4619:2010**

ICS:

87.100	Oprema za nanašanje premazov	Paint coating equipment

SIST EN ISO 4619:2012 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4619

November 2010

ICS 87.060.99

English Version

Driers for paints and varnishes (ISO 4619:1998)

Siccatifs pour peintures et vernis (ISO 4619:1998)

Trockenstoffe für Beschichtungsstoffe (ISO 4619:1998)

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

The text of ISO 4619:1998 has been prepared by Technical Committee ISO/TC 35 “Paints and varnishes” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4619:2010 by Technical Committee CEN/TC 139 “Paints and varnishes” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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The text of ISO 4619:1998 has been approved by CEN as a EN ISO 4619:2010 without any modification.

INTERNATIONAL STANDARD

ISO 4619

Second edition
1998-03-15

Driers for paints and varnishes

Siccatifs pour peintures et vernis

Reference number
ISO 4619:1998(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.

International Standard ISO 4619 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes.*

This second edition cancels and replaces the first edition (ISO 4619:1980), of which it constitutes an editorial revision.

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Printed in Switzerland

Driers for paints and varnishes

1 Scope

This International Standard specifies the requirements and the corresponding test methods for driers for paints, varnishes and related products. The requirements relate to driers in the solid or liquid form.

CAUTION — The procedures described in this International Standard are intended to be carried out by qualified chemist or by other suitably trained and/or supervised personnel. The substances and procedures used in this method may be injurious to health if adequate precautions are not taken. This International Standard refers only to its technical suitability and does not absolve the user from statutory obligations relating to health and safety.

Attention is particularly drawn to the health hazards of heavy metals which may be a constituent of driers (e.g. cobalt, lead, cerium, zirconium, vanadium; see clauses 3, 4 and 8).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 150:1980, *Raw, refined and boiled linseed oil for paints and varnishes — Specifications and methods of test.*

ISO 842:1984, *Raw materials for paints and varnishes — Sampling.*

ISO 1523:1983, *Paints and varnishes — Determination of flashpoint — Closed cup method.*

ISO 2431:1993, *Paints and varnishes — Determination of flow time by use of flow cups.*

ISO 2592:1973, *Petroleum products — Determination of flash and fire points — Cleveland open cup method.*

ISO 2811-1:1997, *Paints and varnishes — Determination of density — Part 1: Pyknometer method.*

ISO 3219:1993, *Plastics — Polymers/resins in the liquid state or as emulsions or dispersions — Determination of viscosity using a rotational viscometer with defined shear rate.*

ISO 3251:1993, *Paints and varnishes — Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes.*

ISO 3696:1987, *Water for analytical laboratory use — Specifications and test methods.*

ISO 4793:1980, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation.*

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 drier: A compound, usually a metallic soap, that is added to products drying by oxidation in order to accelerate this process.

4 Descriptions

4.1 Solid driers

Solid driers are materials which may be manufactured in a hard, soft (highly viscous) or powder form.

4.2 Liquid driers

Liquid driers are materials which are supplied as solutions in organic solvents, usually white spirit.

NOTE — Emulsifiable driers are also available, but no requirements for this type are given in this International Standard.

All these types of drier, when dissolved in solvents (normally hydrocarbons), impart specific drying properties depending on the metal used.

4.3 Metals used

The following metals are used: cobalt, manganese, lead, zinc, calcium, cerium (or other rare earths), iron, zirconium, vanadium, barium, aluminium, strontium, etc.

NOTE — In this International Standard, methods for determination of metal content are given only for those metals which are in common use.

4.4 Acids used

The following acids are used: fatty acids of linseed oils, tall-oil fatty acids, resinic acids, naphthenic acids, 2-ethylhexanoic acid, fatty iso-acids with 9 carbon atoms, other fatty acids with 9 to 11 carbon atoms, etc.

5 Requirements and test methods

5.1 Driers for paints shall comply with the requirement given in table 1.

5.2 Driers named according to the commercial name of the main acid used shall contain at least 90 % of this acid, except for driers based on naphthenic acids, which shall contain at least 70 % of these acids, expressed as a percentage of the total mass of acid present.

NOTE — If desired, the type and content of the acids may be determined by gas-chromatographic (GC) analysis, except in the case of naphthenic acids.

6 Sampling

Take a representative sample of the drier to be tested, as described in ISO 842.

Table 1 — Requirements and test methods

Characteristic		Requirement	Test method	
			Solid driers	Liquid driers
Appearance		Clear and uniform; no suspended matter or sediment	Subclause 7.1	Subclause 8.1
Consistency, if required			To be agreed between the interested parties	—
Colour		As agreed between the interested parties	Subclause 7.2	Subclause 8.2
Solubility (miscibility) in solvent, raw linseed oil and other drying media		No separation or deposit	Subclause 7.3	Subclause 8.3
Stability of solution		Clear solution; no clouding gelation or sedimentation	Subclause 7.4	Subclause 8.4
Suspended solid matter	of liquid driers [% (*m/m*)]	max. 0,1	Subclause 7.5	Subclause 7.5
	of solid driers	As agreed between the interested parties		
Viscosity, only for liquid driers			—	Subclause 8.5
Volatile matter at 105 °C			Subclause 7.6	Subclause 7.6
Flashpoint			ISO 2592	ISO 1523
Density			To be agreed between the interested parties	ISO 2811-1
Acidity or basicity			Subclause 7.7	Subclause 7.7
Drying characteristics			To be agreed between the interested parties	
Metal content (range)	up to 10 % (*m/m*)	± 0,2 % [1]	Clause 9 or 10	
	above 10 % (*m/m*) to 20 % (*m/m*)	± 0,3 % [1]		
	above 20 % (*m/m*) to 30 % (*m/m*)	± 0,4 % [1]		
	above 30 % (*m/m*)	± 0,5 % [1]		

1) Tolerance (absolute value) on the metal content declared or agreed.

7 Methods of test for solid driers

During the analysis, use only reagents of recognized analytical grade and only water of at least grade 3 purity in accordance with ISO 3696.

7.1 Appearance and consistency

Examine the sample visually for uniformity. If the consistency is specified, a method for its determination shall be agreed between the interested parties

7.2 Colour

Dissolve 1 part by mass of the drier in 1 part by mass of white spirit or other agreed solvent and compare the colour against an agreed sample or colour standard.