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# INTERNATIONAL STANDARD



# 412

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

## Gum spirit of turpentine and wood turpentines for paints and varnishes

*Essence de térébenthine et essences de bois pour peintures et vernis*

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Price based on 6 pages

ISO 412-1976 (E)

## 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 412 was drawn up by Technical Committee ISO/TC 35, *Paints and varnishes*, and was circulated to the Member Bodies in January 1975.

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

Austria	Ireland	South Africa, Rep. of
Brazil	Israel	Sweden
Bulgaria	Mexico	Switzerland
Finland	Netherlands	Turkey
France	New Zealand	United Kingdom
Germany	Poland	Yugoslavia
India	Portugal	
Iran	Romania	

No Member Body expressed disapproval of the document.

This International Standards cancels and replaces ISO Recommendation R 412-1965, of which it constitutes a technical revision.

# Gum spirit of turpentine and wood turpentines for paints and varnishes

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the requirements and corresponding test methods for gum spirit of turpentine and wood turpentines for use in paints, varnishes and related products.

## 2 REFERENCES

ISO/R 649, *Density hydrometers for general purposes.*

ISO 842, *Raw materials for paints and varnishes – Sampling.*

ISO 1516, *Paints and varnishes. Determination of the danger classification by flashpoint – Closed cup method.*

ISO 3405, *Petroleum products – Determination of distillation characteristics.*

ISO 3680, *Paints and varnishes – Rapid test for determination of danger classification by flashpoint.*

## 3 DEFINITIONS

**3.1 gum spirit of turpentine :** The product obtained from oleoresins from pine trees by distillation at a temperature below 180 °C or by any other method of fractionation which does not alter the terpenic constituents of the oleoresins.

It is accepted good practice to tap only certain varieties of living pines for oleoresins for the manufacture of gum spirit of turpentine.

Gum spirit of turpentine is composed of a mixture of terpenes (with a small proportion of sesquiterpenes) and oxygenated products.

It may contain small quantities of rosin or rosin oil, arising from the method of production, as well as products of oxidation arising from ageing, provided that the product

complies with the requirements given in the table, particularly with those for relative density, evaporation residue and acid value.

No other impurity can be tolerated.

**3.2 wood turpentines :** The volatile oils consisting primarily of a number of terpene hydrocarbons of the general formula  $C_{10}H_{16}$ , obtained from pine wood.

Three kinds of wood turpentine are now recognized :

**3.2.1 steam-distilled wood turpentine :** The wood turpentine obtained from the oleoresin within the wood of pine stumps or cuttings, either by direct steaming of the mechanically disintegrated wood or by steaming the oleoresin obtained by solvent extraction.

**3.2.2 sulphate wood turpentine :** The wood turpentine recovered during the conversion of wood to paper pulp by the sulphate process.

**3.2.3 destructively distilled wood turpentine :** The wood turpentine obtained by fractionation of certain oils recovered by condensing the vapours formed during the destructive distillation of pine wood.

Crude destructively distilled wood turpentines have generally an almost black colour and contain acids, phenols and tarry material. They should undergo a refining distillation before use. They can be immediately distinguished from the other turpentines by their odour and colour.

## 4 REQUIRED CHARACTERISTICS AND THEIR TOLERANCES

Gum spirit of turpentine and wood turpentines shall have the characteristics shown in the table.

## 5 SAMPLING

A representative sample of the product shall be taken in accordance with ISO 842.