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**INTERNATIONAL STANDARD**



**5271**

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

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## **Benzene for industrial use — Specification**

*Benzène à usage industriel — Spécifications*

First edition — 1979-02-01

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UDC 547.532

Ref. No. ISO 5271-1979 (E)

**Descriptors** : aromatic hydrocarbons, benzene, materials specifications.

## 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 5271 was developed by Technical Committee ISO/TC 78, *Aromatic hydrocarbons*, and was circulated to the member bodies in October 1977.

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

Australia	Hungary	Portugal
Austria	India	Romania
Brazil	Korea, Rep. of	South Africa, Rep. of
Bulgaria	Mexico	Turkey
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	Philippines	U.S.S.R.
Germany, F. R.	Poland	

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The member bodies of the following countries expressed disapproval of the document on technical grounds :

France  
Italy

## Benzene for industrial use – Specification

**WARNING** – Benzene is highly flammable and toxic by inhalation, ingestion or skin absorption.

### 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies requirements for benzene suitable for industrial purposes.

It is applicable to material which consists essentially of benzene (C<sub>6</sub>H<sub>6</sub>).

### 2 REFERENCES

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

ISO 5274, *Aromatic hydrocarbons – Acid-wash test*.

ISO 5276, *Aromatic hydrocarbons – Test for neutrality*.

ISO 5277, *Aromatic hydrocarbons – Determination of residue on evaporation*.<sup>1)</sup>

ISO 5278, *Benzene – Determination of crystallizing point*.

ISO 5281, *Aromatic hydrocarbons – Determination of density at 20 °C*.

ISO 6271, *Clear liquids – Estimation of colour by the platinum-cobalt scale*.<sup>1)</sup>

### 3 REQUIRED CHARACTERISTICS

The material shall conform to the requirements shown in the table.

NOTE – Until such time as the test methods have been published as International Standards, the methods used shall be the subject of agreement between the interested parties.

### 4 SAMPLING<sup>2)</sup>

Take a representative sample of not less than 1 000 ml from the bulk of the material.

TABLE – Required characteristics

Characteristic	Requirement	Test method
Clarity	Clear and free from separated impurities	Visual inspection
Colour	Not darker than the 20 unit standard <sup>3)</sup>	ISO 2211 or ISO 6271
Density at 20 °C	Not lower than 0,878 g/ml or higher than 0,881 g/ml	ISO 5281
Undissolved water at 20 °C	Absent	Visual inspection by transmitted light
Acid-wash test	Acid layer not darker in colour than the standard solution containing 0,2 g of potassium dichromate in 1 000 ml of dilute acid solution	ISO 5274
Total sulphur content	Not greater than 2 mg/kg	A suitable method of test will form the subject of a future International Standard
Neutrality	Neutral	ISO 5276
Residue on evaporation	Not greater than 5 mg/100 ml	ISO 5277
Crystallizing point (dry)	Not lower than 5,35 °C	ISO 5278

1) At present at the stage of draft.

2) The sampling of benzene and other aromatic hydrocarbons will form the subject of a future International Standard.

3) The strongest standard matching solution required is that with a colour of 50 units. Only 1 000 ml of the standard colorimetric solution need, therefore, be prepared.

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