

# Carbon disulphide for industrial use —

## Part 1: Specification

UDC 661.22:546.265.14

Confirmed  
January 2011

## Cooperating organizations

The Chemicals Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

Association of Fatty Acid Distillers  
 British Tar Industry Association  
 Chemical Industries' Association\*  
 Chemical Society, Analytical Division  
 Department of Health and Social Security  
 Department of Industry, Laboratory of the Government Chemist  
 Fertiliser Manufacturers Association Ltd.  
 Hydrocarbon Solvents Association  
 Institution of Gas Engineers  
 Ministry of Agriculture, Fisheries and Food  
 Ministry of Defence  
 National Sulphuric Acid Association  
 Paintmakers' Association of Great Britain Ltd.  
 Royal Institute of Public Health and Hygiene  
 Soap and Detergent Industry Association  
 Standardization of Tar Products Tests Committee

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

British Man-made Fibres Federation  
 British Plastics Federation  
 Oil and Colour Chemists Association  
 Pharmaceutical Society of Great Britain  
 Royal Institute of Chemistry  
 Individual Company

This British Standard, having been prepared under the direction of the Chemical Standards Committee, was published under the authority of the Executive Board on 31 January 1979

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The following BSI references relate to the work on this standard:  
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### Amendments issued since publication

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# Foreword

This British Standard has been prepared under the direction of the Chemicals Standards Committee to provide a specification and methods of test for carbon disulphide for industrial use.

The first edition of this standard was issued in 1936. A revision, published in 1950, was amended in 1954 to include the determination of sulphur dioxide, and was confirmed in 1960. The present edition extends the scope of the specification and incorporates ISO 3144.

The standard is presented in three Parts:

- *Part 1: Specification;*
- *Part 2: Sampling and methods of test;*
- *Part 3: Additional methods of test.*

Part 2 is identical with ISO 3144 “*Carbon disulphide for industrial use — Sampling and methods of test*” and includes the following test methods:

- Determination of density
- Determination of distillation characteristics
- Determination of residue on evaporation
- Determination of inorganic sulphur content
- Determination of alkalinity or acidity

Part 3 specifies methods of test for thiophene, benzene, mercaptans (thiols) and hydrocarbons, which are not included in the ISO publication, and gives an alternative method for the determination of hydrogen sulphide and inorganic sulphur which avoids the use of the extremely deliquescent disodium sulphide nonahydrate.

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## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

## 1 Scope

This British Standard specifies requirements for carbon disulphide for industrial use.

**WARNING NOTE.** Carbon disulphide is highly volatile and gives off vapour at normal room temperature. It is harmful by inhalation of the vapour, by prolonged or repeated contact with the liquid or if taken into the mouth.

Further information is available in Technical Data note 2 published by the Health and Safety Executive on an annual basis.

Carbon disulphide is a highly flammable volatile liquid with a low flash point, a wide explosive range and an auto-ignition temperature lower than 120 °C. Contact with exposed steam lines or the surface of an ordinary electric light bulb can cause ignition.

Because of its hazardous nature, carbon disulphide should always be handled in accordance with the supplier's safety recommendations.

## 2 References

The titles of the publications referred to in this standard are listed on the inside back cover.

## 3 Description

The material shall be clear, colourless and free from matter in suspension and visible water, and shall consist essentially of carbon disulphide, CS<sub>2</sub>.

## 4 Sampling and size of sample

A representative sample of not less than 1 000 ml shall be taken from the bulk of the material by the method described in Part 2 of this standard.

## 5 Density

When determined by the method specified in Part 2, the density at 20 °C of the material shall be not lower than 1.263 g/ml and not higher than 1.267 g/ml.

**NOTE** The above density values correspond to the following relative density ranges

Relative density at 15.5 °C/15.5 °C	1.270 to 1.274
Relative density at 20 °C/20 °C	1.265 to 1.269

## 6 Distillation characteristics

When tested by the method specified in Part 2, at a pressure of 100 kPa, the material shall yield not less than 95 % by volume below 46.4 °C.

## 7 Residue on evaporation

When tested by the method specified in Part 2, the material shall not leave more than 0.01 % by mass of non-volatile residue. The residue shall be free from visible oil.

## 8 Inorganic sulphur content

When determined by the method specified in either Part 2 or Part 3, the total inorganic sulphur content, i.e. hydrogen sulphide and sulphur dioxide, shall not be greater than 2 mg/kg.

## 9 Alkalinity or acidity

When tested by the method specified in Part 2, the material shall be neutral or alkaline. The alkalinity shall not exceed 2 milligram equivalents per litre.

## 10 Thiophene content

When determined by the method specified in Part 3, the thiophene content shall not be greater than 100 mg/kg.

## 11 Benzene content

When determined by the method specified in Part 3, the benzene content shall not be greater than 100 mg/kg.

## 12 Mercaptan (thiol) content

When determined by the method specified in Part 3, the mercaptan (thiol) content shall not be greater than 2 mg/kg.

## 13 Hydrocarbon content

When determined by the method specified in Part 3, the hydrocarbon content shall not be greater than 100 mg/kg.



## Publications referred to

BS 662, *Carbon disulphide for industrial use.*

BS 662-2, *Sampling and methods of test.*

BS 662-3, *Additional methods of test.*

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