

# Acetic acid for industrial use —

## Part 1: Specification for acetic acid

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# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Chemicals Standards Committee (CIC/-) to Technical Committee CIC/51, upon which the following bodies were represented:

British Pharmacopoeia Commission  
 British Society of Perfumers  
 Chemical Industries Association  
 Department of Trade and Industry (Laboratory of the Government Chemist)  
 Royal Society of Chemistry

This British Standard, having been prepared under the direction of the Chemicals Standards Committee, was published under the authority of the Board of BSI and comes into effect on 29 February 1988

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The following BSI references relate to the work on this standard:  
 Committee reference CIC/51  
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## Amendments issued since publication

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# Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
<hr/>	
1 Scope	1
2 Description	1
3 Sampling and size of sample	1
4 Requirements	1
<hr/>	
Table 1 — Requirements	1
<hr/>	
Publications referred to	Inside back cover
<hr/>	

## Foreword

This Part of BS 576, which has been prepared under the direction of the Chemicals Standards Committee, comprises a specification for acetic acid to meet the requirements of a wide range of industrial users. It does not, however, apply to material intended for medicinal use, which is included in the British Pharmacopoeia, or to material for photographic use, which is specified in BS 5569.

First published in 1934, BS 576 was last revised in 1969 and is now withdrawn, being superseded by this Part of BS 576 together with Part 2.

The following changes have been made in this revision of BS 576.

- a) The grade referred to as “technical glacial acetic acid” has been omitted.
- b) The requirements for residue on evaporation are more stringent for each grade.
- c) The requirements for crystallizing point, acetic acid content and water content of glacial acetic acid are more stringent.
- d) The requirements for inorganic chlorides, inorganic sulphates, heavy metals and formic acid content of glacial acetic acid and “80 % dilute acetic acid” are more stringent.
- e) The maximum value for colour of glacial acetic acid and “80 % dilute acetic acid” is now 15 Hazen units instead of 10 Hazen units.
- f) The methods of test which were appended to BS 576:1969 are now published as Part 2.

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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 Part of BS 576 specifies requirements for three grades of acetic acid suitable for industrial use. It does not apply to material for medicinal use or to material for photographic use.

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

## 2 Description

At ambient temperatures above the crystallizing point, the material shall be a liquid which is clear and free from matter in suspension, other than a slight opalescence resulting from storage in aluminium or wax-lined containers, as assessed by visual inspection. It shall consist essentially of acetic acid,  $\text{CH}_3\text{COOH}$ .

## 3 Sampling and size of sample

A sample of not less than 1 L shall be taken in accordance with BS 576-2.

## 4 Requirements

The material shall comply with the requirements given in Table 1, when tested by the appropriate method as indicated in the final column.

Table 1 — Requirements

Property	Grade			Method of test
	Glacial acetic acid	80 % dilute acetic acid	80 % dilute technical acetic acid	
Colour, Hazen units, maximum	15	15	40	BS 5339
Crystallizing point, °C, minimum	15.6	<sup>a</sup>	<sup>a</sup>	BS 576-2 (by reference to BS 4633)
Acetic acid content, % ( <i>m/m</i> ): minimum maximum	99.5 <sup>a</sup>	79.5 80.5	79.5 80.5	BS 576-2
Residue on evaporation, % ( <i>m/m</i> ), maximum	0.005	0.005	0.01	BS 4524
Iron content, % ( <i>m/m</i> ), maximum	0.0002	0.0002	<sup>a</sup>	BS 576-2 (by reference to BS 6337-3)
Inorganic chlorides, % ( <i>m/m</i> ) of $\text{Cl}^-$ , maximum	0.0003	0.0003	0.002	BS 576-2
Inorganic sulphates, % ( <i>m/m</i> ) of $\text{SO}_4^{2-}$ , maximum	0.0002	0.0002	0.002	BS 576-2
Heavy metals (including iron), as % ( <i>m/m</i> ) of Pb, maximum	0.0003	0.0003	0.002	BS 576-2
Formic acid content, % ( <i>m/m</i> ), maximum	0.10	0.10	0.35	BS 576-2
Acetaldehyde monomer content, % ( <i>m/m</i> ), maximum	0.05	0.05	0.15	BS 576-2
Water content, % ( <i>m/m</i> ), maximum	0.35	<sup>a</sup>	<sup>a</sup>	BS 2511

<sup>a</sup> Not specified.



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## Publications referred to

BS 576, *Acetic acid for industrial use.*

BS 576-2, *Methods of test for acetic acid.*

BS 2511, *Methods for the determination of water (Karl Fischer method).*

BS 4524, *Method for determination of residue on evaporation on a water bath.*

BS 4633, *Method for the determination of crystallizing point.*

BS 5339, *Method of measurement of colour in Hazen units (platinum-cobalt scale) of liquid chemical products.*

BS 5569, *Specification for photographic grade glacial acetic acid<sup>1)</sup>.*

BS 6337, *General methods of chemical analysis.*

BS 6337-3, *Method for determination of iron content (1,10-phenanthroline spectrophotometric method).*

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<sup>1)</sup> Referred to in the foreword only.

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