

Specification for

# Zinc naphthenate and zinc naphthenate concentrates

# Co-operating organizations

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

- Association of British Chemical Manufacturers
- Board of Trade
- British Iron & Steel Federation
- Fertilizer Manufacturers' Association
- Gas Council
- Institute of Vitreous Enamellers
- Institution of Gas Engineers
- Ministry of Defence, Army Department\*
- Ministry of Health
- National Sulphuric Acid Association
- Royal Institute of Public Health and Hygiene

The Government department 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 Naphthenate Makers' Association
- British Wood Preserving Association
- D.S.I.R. — Laboratory of the Government Chemist
- Ministry of Defence, Navy Department
- Textile Institute

This British Standard, having been approved by the Chemicals Industry Standards Committee and endorsed by the Chairman of the Chemical Divisional Council, was published under the authority of the General Council on 14 July 1964

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## Foreword

This standard makes reference to the following British Standards:

BS 245, *White spirit*.

BS 572, *Interchangeable conical ground glass joints*.

BS 593, *Laboratory thermometers*.

BS 658, *Apparatus for the determination of distillation range (including flasks and receivers)*.

BS 756, *Dean and Stark apparatus*.

BS 1752, *Laboratory sintered or fritted filters*.

BS 1792, *One-mark volumetric flasks*.

BS 3442, *Determination of flash point of petroleum products by means of the Abel apparatus*.

BS 3591, *Industrial methylated spirits*.

The preparation of this British Standard was authorized by the Chemicals Industry Standards Committee in order to provide a specification suitable for the requirements of Government Departments and other users. Zinc naphthenate in an organic solvent is used for the preservation of wood and textiles and in other industries.

NOTE Where metric equivalents are stated, the figures in British units are to be regarded as the standard. The metric conversions are approximate. More accurate conversions should be based on the tables in BS 350, "Conversion factors and tables".

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 9 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 covers zinc derivatives of naturally occurring naphthenic acids extracted from petroleum oils and concentrates of these derivatives.

NOTE For certain specialized uses there may be additional requirements for which reference should be made to the appropriate specification with respect to the carrier solvent to be used in the concentrate, and also to diluents and final concentrations to be achieved on dilution.

## Part 1. Zinc naphthenate

### 2 Description

The material shall be a solid or very viscous liquid free from separated water and sludge which when heated to 100 °C shall form a clear, homogeneous liquid free from visible impurities.

### 3 General composition

The material shall consist essentially of the zinc derivatives of naphthenic acids (naturally occurring carboxylic acids extracted from petroleum oils).

### 4 Zinc content

The material shall contain metallic naphthenate, equivalent to not less than 12.0 per cent of metallic zinc (Zn) when determined by the method described in Appendix B.

### 5 Acid value of extracted organic acids

The acid value of the extracted organic acids shall not be less than 230 nor more than 255, when determined by the method described in Appendix C.

NOTE By convention acid value is expressed as the number of milligrammes of potassium hydroxide equivalent to 1 g of material.

### 6 Non-volatile oil

The material shall not contain more than 15 per cent by weight of non-volatile oil, determined by the method described in Appendix D.

### 7 Moisture

The material shall not contain more than 0.5 per cent of water, determined by the method described in Appendix E.

### 8 Acidity of aqueous extract

An aqueous extract of the material, prepared as described in Appendix A, shall show no acidity to methyl orange.

## 9 Water-soluble sulphates

The material shall not contain more than 0.15 per cent by weight of water-soluble sulphates, calculated as sodium sulphate,  $\text{Na}_2\text{SO}_4$ , and determined by the method described in Appendix F.

## 10 Water-soluble chlorides

The material shall not contain more than 0.1 per cent by weight of water-soluble chlorides, calculated as sodium chloride,  $\text{NaCl}$ , and determined by the method described in Appendix G.

## 11 Matter insoluble in acetone

The material shall not contain more than 2.0 per cent by weight of matter insoluble in acetone, determined by the method described in Appendix H.

## 12 Sampling and size of sample

A representative sample of the material shall be taken from the bulk for the purpose of examination in accordance with this specification, the number of containers to be sampled and the size of the sample being subject to agreement between purchaser and vendor. The sample shall be stored in a closed, wide-mouthed glass container until required for analysis.

## 13 Marking

Each container shall be marked with the following information:

- The manufacturer's name or registered trade mark.
- The number of this British Standard, viz. BS 3770, Part 1.
- Zinc (Zn) content, per cent by weight.

NOTE The mark BS 3770 on the product is a claim by the manufacturer that it complies with the requirements of the standard.

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