

WATER-SOLUBLE RESINS

An Industrial Guide

Ernest W. Flick

PORTABLE C SOFTWARE

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Preface

This book contains descriptions of almost 1,300 water-soluble resins which are available to industry. Both natural and synthetic resins are included. The book will be of value to technical and managerial personnel involved in the final products made with these resins, as well as the suppliers of the basic raw materials.

The data consist of selections of manufacturers' descriptions made at no cost to, nor influence from, the makers or distributors of these materials.

The table of contents is organized in such a way as to serve as a subject index. A Resin Index is included to assist the reader in locating available products which contain particular types of polymers.

My fullest appreciation is expressed to the companies and organizations who supplied the data included in this book. All companies are listed in Section VI.

Newburyport, Massachusetts
September 1986

Ernest W. Flick

NOTICE

To the best of our knowledge the information contained in this publication is accurate; however, the publisher does not assume any liability for the accuracy or completeness of such information. Final determination of the suitability of any information or product for use contemplated by any user, and the manner of that use, is the sole responsibility of the user. We strongly recommend that users seek and adhere to a manufacturer's or supplier's current instructions for handling each material they use.

Introduction

This book is a collection of almost 1,300 water-soluble, natural and synthetic resins which are available to industry. It is the result of information received from numerous industrial companies and other organizations. The data represent selections from manufacturers' descriptions made at no cost to nor influence from, the makers or distributors of these materials. Only the most recent information has been included. It is believed that all of the products listed here are currently available, which will be of utmost interest to readers concerned with product discontinuances.

The water-soluble resins are divided into the following sections, with the number of raw products covered in parentheses:

- Section I Cellulose Ethers (141)
- Section II Gelatins and Collagens (12)
- Section III Natural Gums (214)
- Section IV Resin Dispersions, Emulsions and Solutions (790)
- Section V Resins (146)

Each product is located in the section which is most applicable. The reader seeking a particular resin should check each section which could possibly apply, as well as the Resin Index found at the end of the book.

In addition to the above, there is another section which will be helpful to the reader:

- Section VI Suppliers' Addresses

x *Introduction*

The book lists the following information, as presented by the supplier:

- (1) Company name and product category as the heading of the page.
- (2) Tradenames and product numbers.
- (3) Product description: A description of the product's main features, as described by the supplier.

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Section I

Cellulose Ethers

2 Water-Soluble Resins

AMERICAN HOECHST: Sodium Carboxymethylcellulose, Technical Grades:

Product Name:

Tylose CR 1500:

Description: ~65% NaCMC, normally etherified. Granules. Number represents viscosity stage in mPa s, 5% solution, Hoppler Viscosimeter @ 20C.

Tylose CR 1500p:

Description: ~65% normally etherified. Powders. Number represents viscosity stage in mPa s, 5% solution, Hoppler Viscometer @ 20C.

Tylose CR 1500w*:

Description: >65% NaCMC, normally etherified. Fine granules. Number represents viscosity stage in mPa s, 5% solution, Hoppler Viscometer @ 20C.

Tylose CR 700n:

Description: ~55% NaCMC, normally etherified. Granules. Number represents viscosity stage in mPa s, 5% solution, Hoppler Viscometer @ 20C.

Tylose CBR 30:

Tylose CBR 4000:

Tylose CBR 6000:

Tylose CBR 10,000*:

Description: ~60% NaCMC, highly etherified. Granules. Number represents viscosity stage in mPa s, 5% solution, Hoppler Viscometer @ 20C.

* For the detergent industry: Tylose CR 1500w (supplied as fine granules). Tylose CBR 10,000 (pH below 10).

Tylose CBR 5000np:

Description: ~60% NaCMC, highly etherified. Powders. Number represents viscosity stage in mPa s, 5% solution, Hoppler Viscometer @ 20C.

AMERICAN HOECHST: Tylopur Grades for the Foodstuffs Industry:

Product Name:

Tylopur MH 300:

Description: MHEC, normally etherified. Granules. Number represent viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur MH 1000p:

Tylopur MH 4000p:

Description: MHEC, normally etherified. Powders. Numbers represent viscosity stages in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur MHB 50:

Tylopur MHB 1000:

Description: MHEC, highly etherified. Granules. Numbers represent viscosity stages in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur MHB 3000p:

Tylopur MHB 10,000p:

Description: MHEC, highly etherified. Powders. Numbers represent viscosity stages in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur C 30:

Tylopur C 600:

Tylopur C 6000:

Description: NaCMC, normally etherified. Granules. Numbers represent viscosity stages in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur C 300p:

Tylopur C 1000p:

Tylopur C 10,000p:

Description: NaCMC, normally etherified. Powders. Numbers represent viscosity stages in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur CB 30,000:

Description: NaCMC, normally etherified. Granules. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylopur CB 30,000p:

Description: NaCMC, normally etherified. Powders. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C

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AMERICAN HOECHST: Tylopur Grades for the Foodstuffs Industry (Continued):

Description(All of the Above Grades):

Degree of Purity(MHEC): 98.5% minimum, dry weight basis.

Degree of Purity(NaCMC): 98.5% minimum, dry weight basis.

The Tylopur grades are high-purity methylhydroxyethylcelluloses and sodium carboxymethylcelluloses. They are considered physiologically safe and are primarily intended for use in the manufacture of foodstuffs; they are also employed in pharmaceutical preparations. The Tylopur grades can be used in these sectors as legal regulations permit.

For instance, they are listed in ECC directive 74/329 of 18 June 1974 under the designations E461 methylcellulose and E466 sodium carboxymethylcellulose as direct additives which may be employed in limited quantities in foodstuffs.

Hydroxyethylcellulose is not intended for direct use in foodstuffs, but can be employed, for instance, as a film for protective coatings for foodstuff packaging. It is also used in some pharmaceutical and cosmetic preparations.

AMERICAN HOECHST: Tylose Grades for the Building Industry:

Product Name:

Tylose P 6000:

Description: MHEC. Fine powders. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylose P 6000x:

Description: MHEC. Fine powders with retarded swelling properties. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylose PS 15,000x:

Description: MHEC. Fine powders, with retarded swelling properties. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylose P 6000Z2:

Description: MHEC with consistency-regulating modification. Fine powders. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylose FL 15,000:

Description: MHEC. Superfine powders. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylose FL 6000x:

Description: MHEC. Superfine powders. Number represents viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Tylose FL 6002:

Tylose FL 15,001:

Tylose FL 15,002:

Description: MHEC with consistency-regulating modification. Superfine powders. Numbers represent viscosity stage in mPa s, 2% solution, Hoppler Viscometer @ 20C.

Degree of Purity(All of the Above): 98.5% minimum, dry weight basis.

In addition to the above grades, the familiar MH and MHB grades are suitable for use by the building industry. The Tylose BA grades can be used for special purposes. The Tylose grades for the building industry serve to regulate consistency, control water retention and improve the adhesive properties of ready-to-use masonry finishes, masonry mortars, adhesive, jointing and trowelling compounds. Due to their special formulation, Tylose P grades and especially Tylose FL grades are ideally suitable for use in building material systems designed for machine processing. The modified Tylose grades impart marked structural viscosity to mortars.