Bleaching Of Wool With Sodium Borohydride

The compact, affordable reference, revised and updated The Encyclopedia of Polymer Science and Technology, Concise Third Edition provides the key information from the complete, twelve-volume Mark's Encyclopedia in an affordable, condensed format. Completely revised and updated, this user-friendly desk reference offers quick access to all areas of polymer science, including important advances in nanotechnology, imaging and analytical techniques, controlled polymer architecture, biomimetics, and more, all in one volume. Like the twelve-volume full edition, the Encyclopedia of Polymer Science and Technology, Concise Third Edition provides both SI and common units, carefully selected key references for each article, and hundreds of tables, charts, figures, and graphs.

Spinning is a major industry; it is part of the textile manufacturing process where three types of fibre are converted into yarn, then fabric, then textiles. The textiles are then fabricated into clothes or other artifacts. The fundamental operations for the stocks of fibers from which a woollen yarn is made are opening, cleaning, mixing, forming a slubbing or roving and finally thinning the roving to the required yarn number and twisting it to produce a yarn possessing the requirements for subsequent processing such as warping, winding, weaving, finishing and dyeing. These demands vary with the different conditions confronted in manufacturing but include the following features: strength, elasticity, uniformity in weight per unit length and even distribution of twist. Woollen spinning involves three principal operations, irrespective of whether the mule or the frame or ring spinner is used, namely: Drafting, final drawing out, Twisting, or insertion of twist, Winding on, or packaging. Weaving constitutes the actual production of cloth or fabric, i.e., to combine the essentially one dimensional textile structure thread or yarn in such a way as to result in an essentially two dimensional structure of cloth of certain appearance, hand and strength. Knitting is the art and science of constructing a fabric by inter lacing loops, there are two types of knitting: warp and weft knitting. In recent years whole new classes of dyes such as fiber reactive, disperse, cationic basic, neutral dying premetalized have been discovered and produced for the dyeing of the natural and new synthetic, hydrophobic fibers. Bleaching improves whiteness by removing natural coloration and remaining trace impurities from the cotton; the degree of bleaching necessary is determined by the required whiteness and absorbency. Cotton being a vegetable fibre will be bleached using an oxidizing agent, such as dilute sodium hypochlorite or dilute hydrogen peroxide. If the fabric is to be dyed a deep shade, then lower levels of bleaching are acceptable, for example. However, for white bed sheetings and medical applications, the highest levels of whiteness and absorbency are essential. Wool fiber production technology necessitates full understanding of its growth, pristine structure, physical, chemical and functional properties as well as processes involving manufacture of textile fibers. Some of the fundamentals of the book are woollen spinning, atmospheric conditions in wool manufacturing, Bradford system top gilling or top finishing, the principle of weaving, woollen and worsted weaves, knitting, the changing outlook of the knitting industry, influence of fiber fineness on quantity of dye required, altering the affinity of the wool fiber for dyes, dyeing of yarn according to the packing system, special wool finishes, water repellent, stain resistant treatments for worsted and woollen fabrics, the printing of wool piece goods, lustering of wool fabrics, fluorochemicals, mothproofing etc. The present book is of its own kind which covers woollen spinning; knitting, dyeing, bleaching and printing, special wool finishes etc. This is an important reference book for wool technologists, scientists, new entrepreneurs, research scholars and all others related to this field.

A series of aromatic and aliphatic activators based on the esters of phenol sulphonic acids were synthesised from sodium-4-benzene sulphonate and a variety of acid chlorides, purified and characterised. Wool was pretreated with the activating esters for 1 and 10% on weight of fabric using a long-liquor technique, in a buffer solution at pH 4, wool to liquor ratio 1:40, at 50 degrees C for 60 minutes in a laboratory dyeing machine. The pretreated wool was then bleached for a variety of conditions....

In this book leading experts within the industry come together to give the first comprehensive treatments of the science and technology of wool to be published in over 20 years. The wool industry has been through a period of substantial change, with a major overhaul of trading methods, exciting innovations in wool-scouring and wool processing methods, and the development of modern technology reflecting a strong emphasis on environmental concerns and energy conservation. Research into wool science has continued to grow, and the technologist now has a better understanding of both the chemical and the physical properties of wool. Modern instruments can determine the structural differences between several types of wool proteins and how they interact, and this knowledge is leading to a deeper understanding of what can be done to create better products and more effective processes. Wool: Science and technology is an essential reference resource for anyone involved in the worldwide wool industry whether as processor, manufacturer, or user for the garment and carpets trades. First new comprehensive treatment of wool for over 20 years Covers all aspects of processing, treatment and manufacture Contributions form distinguished experts worldwide

This data- and factbook contains state-of-the-art information on the environmental aspects of 2,500 chemicals currently used in the textile industry worldwide. The authors have worked closely with industrial practitioners and managers of textile plants to ensure that only state-of-the-art science and technology are included. The texts preceding the extended tables present comprehensive overviews of the processes presently in use, as well as of important and relevant governmental regulations. The data sheet for each chemical spans carefully selected, relevant environmental and production-related data. In addition, textile engineers and specialists involved in the risk assessment and control of these chemicals will find that the overviews given on each chemical, its field of application and its function in production processes make this volume a valuable tool for their frequent reference.

Dealing with the classical processes for textile dyeing, as well as with the preparation of the material before dyeing, this book also includes recent technological developments. Both theoretical and the practical aspects are covered in order to

enable the students and the technicians to understand the processes clearly.
Keratin fibres, particularly wool fibres, constitute animportant natural raw material in textiles due to their comfort andthermal proprieties. Wool coloration demands an understanding ofthe complex nature of the interplay between wool fibre chemistry,morphology and the coloration processes. The Coloration of Wool and other Keratin Fibres is acomprehensive treatment, written by leading international experts,of the chemistry and chemical processes involved in wool dyeing,printing, preparation and finishing. The book covers: the chemical and physical structure of wool keratin fibres,detailing their complex heterogeneity and the subtle links betweenfibre structure and dyeability the coloration of fabrics containing wool, including a varietyof wool blends such as wool/silk, wool/polyester and wool/cotton,and luxury keratin fibres such as mohair, cashmere and camel the chemistry of the various types of dyes utilised in wooldyeing and in-depth discussions on the physical properties tooptimise these processes practical application of dyes to wool in all its forms, loosestock, combed tops, yarns and piece goods, is covered in thechapter on wool dyeing machinery two chapters, one on bleaching and whitening and one on dyeinghuman hair, provide a valuable extension to the topic of cosmeticchemistry The Coloration of Wool and other Keratin Fibres isessential reading for professionals world-wide working in companiesinvolved in the dyeing and printing of wool, wool blends and otherkeratin fibres and also for the producers of dyes and auxiliarydyeing agents. It is a valuable resource for teachers and studentsof universities and technical institutes, as well as forresearchers who are focusing their investigations on wool, woolblends, human hair or dyes and auxiliaries. Published in partnership with the Society of Dyers andColourists (SDC). Find out more at ahref="http://www.wiley.com/go/sdc"www.wiley.com/go/sdc/a
Textile chemical processing today, particularly the pre-treatment processes require a highly sophisticated technology and engineering to achieve the well known concepts of "Right first time, Right everytime and Right on time" processing and production. Chemical pre-treatment may be broadly defined as a procedure mainly concerned with the removal of natural as well as added impurities in fabric to a level necessary for good whiteness and absorbency by utilising minimum time, energy and chemicals as well as water. This book discusses the fundamental aspects of chemistry, chemical technology and machineries involved in the various pre-treatment process of textiles before subsequent dyeing, printing and finishing. With the introduction of newer fibres, specialty chemicals, improved technology and sophisticated machineries developed during the last decade, this book fills a gap in this area of technology. However, its real strength is its clear perception of ample background description, which will enable readers to understand most current journals, thus staying abreast of the latest advances in the field.
Coverage includes Ireland.
Mounted samples.
Water; Sequestering agents and coordination compounds; Ion exchange; Chemical composition of natutal fibres Preparation of yarns for weaving; Starch and gums; Oils, fats and waxes; Singeing and desinzing of cotton; Scouring of cotton; Bleaching of cotton with hypochlorites; Bleaching of cotton with peroxide; Bleaching of cotton with sodium chlorite; Scouring and bleaching of linen and man-made; Scouring of wool; Treatment of wool in aqueous liquors; The bleaching of wool; Scouring and bleaching of silk; Mercerisation of cotton.
The manufacture and processing of textiles is a complex and essential industry requiring many diverse skills to ensure profitability. New products are continually being developed, and reflect the energy and innovation of those working in the field. This book focuses on the technological aspects of the chemical processing oftextiles, and on the modifications necessary for specific work environments. Coverage ranges from fibre structure and its relationship to tensile properties, textile aesthetics, comfort physiology, and end-use performance, through to the effect of domestic processing by the consumer on the textile product. The industry is constantly under environmental pressure, and the book examines the nature of environmental control and the development of alternative technology to produce less environmental impact. In order to provide a balanced view of the current situation, authors have been drawn from academia, research institutes and industry to produce a text that will be useful to both industrial readers and university students. In conclusion I would like to thank the authors for their dedication and their contributions.
PREFACE: IN the present volume, dealing with the Chemical Technology of the Textile Fibres except as concerns the dye-stuffs, which will be treated in a separate work, the author has been obliged to con- dense the available matter as much as possible, in order to preserve the form of a text-book. Nevertheless, it seemed necessary, in certain cases, in the interests of the book, to give definite data and an exact description of individual processes. In such instances the details have been gathered exclusively either from the authors personal experience or from reliable sources. The most important part of the book is the chapter treating of dyeing, whilst, on the other hand, the subject of printing had to be dealt with in a more general fashion, the materials being less suitable for treatment in text-book style. The author thinks it desirable to point out that in the present work an attempt has been made to completely separate the chemical and mechanical technology of the subject, a standpoint he considers justified by the extensive area occupied by each of these branches. Hence only a few sketches of apparatus have been given and the methods of dressing the finished goods have been described very briefly, since they almost entirely belong to the domain of mechanical technology. ...GEOEG VON GEOEGIEVICS. Artificial Fibres . Mineral, . Vegetable Cellulose..... Cotton . . . . Bombax Cotton .... Vegetable Silk .... Flax .- . . .. Hemp Jute Ramie, Rhea, China Grass, Nettle Fibre . Contents include: CHAPTER L THE TEXTILE FIBRES Distinguishing Tests for the Various Fibres Animal Fibres .... Silk . . Animal Hairs . Sheeps Wool . Goat Wool and Camel Wool Artificial Wool Wool Substitutes Conditioning CHAPTER II. WASHING, BLEACHING, CARBONISING Washing and ..... Bleaching Definition Bleaching Agents ... Cotton-Bleaching . . .. PAGE iii 1 2 2 3 8 12 12 12 16 17 19 20 2-2 23 34 35 45 46 19 50 53 viii CONTENTS Linen-Bleaching . . . Ramie-Bleaching... Hemp-Bleaching... Jute-Bleaching . 76 Scouring and Bleaching Silk 77 Washing and Bleaching Wool ... 80 Blueing or White 86 Dyeing... Carbonising .... 87 CHAPTER III. MORDANTS AND MORDANTING Mordants..... 95 Mordanting Wool . ... 96 Mordanting Silk . . . . . .98 Mordanting Cotton ..... 99 Alumina Mordants . . . . . .102 Mordants..... Iron Mordants . . . . . .,106 ..... Chrome 108 Tin Mordants 112 Copper and other Mordants . . . . .114 The Fixing Agents Acid Mordants 115 Tannic Acids ... . Oleic Acids . . . PAGE . . . . .116 - . . . . .122 CHAPTER IV. DYEING 1. Theory of Colour Combination of Colours Dyeing to Pattern . . 125 2. Theory of Dyeing . . . . . 130 3. Classification of Dye-Stuffs Methods of Dyeing . . . ., 138 Application of Acid Dye-Stuffs . . . . Application of Basic v . Dye-Stuffs ., . . .- 143 Application of Direct or Substantive Cotton Dyes..... . Dyes . . 146 Application of the Mordant 154 Dyeing with Cochineal . . . . .160 Dyeing with Catechu..... 178 Black and Blue Dyeings with Logwood on Wool . . . 163 Turkey-Red Dyeing . .. . -. . .172 Black-Dyeing Cotton with Logwood..... 180 ...