

**MANUALS OF CHEMICAL TECHNOLOGY - IV.  
CHLORINE & CHLORINE PRODUCTS:  
INCLUDING THE MANUFACTURE OF  
BLEACHING POWDER, HYPOCHLORITES,  
CHLORATES, ETC., WITH SECTIONS ON  
BROMINE, IODINE, AND HYDROFLUORIC ACID**

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Manuals of Chemical Technology - IV. Chlorine & Chlorine Products: Including the Manufacture of Bleaching Powder, Hypochlorites, Chlorates, Etc., with Sections on Bromine, Iodine, and Hydrofluoric Acid by Geoffrey Martin & G. W. Clough

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**GEOFFREY MARTIN & G. W. CLOUGH**

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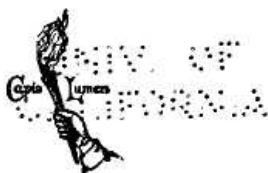
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70 YEARS  
ANNIVERSARY



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## PREFACE

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THE present volume deals with some of the most important products of the Chemical Industry. The element Chlorine has steadily increased, decade by decade, in commercial importance until the present time. The world's annual production of this element cannot be much less than 150,000 tons—enormous amounts being used in the manufacture of bleaching powder, hypochlorites, chlorates, perchlorates, and certain complex carbon compounds from which synthetic dyes are derived.

The magnitude of the bleaching industry and its close connection with the textile and dyeing trades are too well known to need further comment here.

It is well, however, to refer to a change which is gradually coming over this branch of industry. Whereas formerly practically all bleaching was performed by means of chlorine absorbed in lime—the well-known bleaching powder—at the present time a considerable and growing quantity of bleaching liquids are produced on the place of use by electrolysing brine. Special attention has been devoted to this recent development, as well as to the subject of electrolytic chlorine and alkali. The comparative neglect of electrolytic methods in Great Britain, and their highly developed condition in the United States and in Germany (where no less than 66 per cent. of the bleaching powder made is produced from electrolytic chlorine), are matters of serious consideration at the present time; indeed, further neglect may lead to the undermining of the British Alkali Industry. In the present book the most recent available information is given of electrolytic methods for manufacturing chlorates and perchlorates—substances especially valuable on account of their oxidising and explosive properties.

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Bleaching powder has been dealt with at considerable length. This substance has acquired especial importance on account of its valuable disinfecting properties. Indeed, the large scale employment of bleaching powder in modern warfare has been largely responsible for the greatly lowered mortality due to disease.

The employment of chlorine gas in warfare—first practised by the Germans in 1915—has turned the attention of the whole world to liquid chlorine, and hence no apology is needed for the detailed account which is given of the methods employed for liquefying and storing this substance. Indeed the employment of poisonous gases by the Germans has brought home at last to the general public that this is essentially a chemical war, and that chemistry is destined to play a great part in the future in deciding the rise and fall of nations. Our grave neglect of chemical science in the past has undoubtedly cost the country many thousands of valuable lives and hundreds of millions of pounds.

The final chapter, written by Mr G. W. Clough, gives a concise account of some modern oxidising agents which have become important within recent years. The article deals with peroxides, persulphates, percarbonates, and similar substances; and it is hoped will afford valuable information which otherwise would have to be obtained from scattered and often inaccessible periodical literature.

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