

FRACTIONAL DISTILLATION

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Fractional Distillation by Sydney Young

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SYDNEY YOUNG

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FRACTIONAL DISTILLATION

BY

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WITH SEVENTY-TWO ILLUSTRATIONS

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PREFACE

DURING the past eighteen years I have been engaged in investigations which necessitated the preparation of chemical materials in the purest possible state, and as the great majority of these substances were liquids, the process of fractional distillation had, in most cases, to be resorted to for their purification.

The difficulties I met with in some of the separations led me to make a careful investigation of the whole subject, and I was thus enabled to devise some new methods and forms of apparatus which have been described from time to time in various scientific journals.

It is in the hope that the solution of the difficulties which so often occur in carrying out a fractional distillation may be rendered easier, and that the value and economy of highly efficient still-heads in laboratory work may come to be more widely recognised than is generally the case at present, that this book has been written.

My sincere thanks are due to Professor J. Campbell Brown for the loan of valuable ancient works by Libavius and Ulstadius, from which Figures 2 and 34 have been taken; to my colleague, Dr. F. E. Francis, for reading the proofs, and for much valuable assistance in compiling the

index ; and to Professor R. A. Gregory and Mr. A. T. Simmons, B.Sc., for many useful suggestions regarding the arrangement of the MS. and for the perusal of the proofs.

In the description and illustration of the stills employed in commerce I have derived much assistance from articles in Thorpe's "Dictionary of Applied Chemistry" and Payen's "Précis de Chimie Industrielle."

I have made much use of the experimental data of Brown, Konowaloff, Lehfeldt, Zawidzki and other observers, and have, as far as possible, made due acknowledgment, but in some of the tables this has not been practicable.

Several fractional distillations and numerous experiments have been carried out while the book was being written and the results have in many cases not been published elsewhere.

S. Y.

BRISTOL,

August 1903.

CONTENTS

	PAGE
CHAPTER I	
INTRODUCTION—APPARATUS REQUIRED	1
CHAPTER II	
THE BOILING POINT OF A PURE LIQUID	22
CHAPTER III	
VAPOUR PRESSURES OF MIXED LIQUIDS	32
CHAPTER IV	
BOILING POINTS OF MIXED LIQUIDS	51
CHAPTER V	
COMPOSITION OF LIQUID AND VAPOUR PHASES; EXPERIMENTAL DETERMINATIONS	71
CHAPTER VI	
COMPOSITION OF LIQUID AND VAPOUR PHASES, CONSIDERED THEO- RETICALLY	89
CHAPTER VII	
DIRECTIONS FOR CARRYING OUT A FRACTIONAL DISTILLATION	114
CHAPTER VIII	
THEORETICAL RELATIONS BETWEEN THE WEIGHT AND COMPOSITION OF DISTILLATE	144
CHAPTER IX	
RELATION BETWEEN THE BOILING POINTS OF RESIDUE AND DISTILLATE	150