

# Introduction

Chemistry of lithography is concerned with the chemical reactions which take place in all of the phases of the lithographic printing process. There is chemistry involved in the photographic part of the process, in the preparation of printing plates, and in the running of the plates on the press. In addition, there is chemistry connected with the paper which is lithographed, and the ink which is transferred to the paper. There is chemistry involved in the preparation of the different kinds of ink rollers. In order to understand the preparation of bimetal plates, a knowledge of the chemistry of electroplating is needed. Presensitized plates using quite different light-sensitive coatings are now in common use.

It is realized that many pressmen, photographers, and platemakers are turning out fine lithographic work and yet know very little about the chemistry of the processes which they are using. So the question arises, "Why study the chemistry of lithography? Will I be any better platemaker, or photographer, or pressman, if I do?" It could be said that the craftsman who understands *why* he is doing what he is doing will be more apt to do it correctly and carefully, and less apt to do things which are, from the chemical point of view, wrong or dangerous. Many people in the lithographic business believe that a study of chemistry is *fundamental*, or *basic*, to the proper understanding of lithography. This means that an apprentice should have chemistry early in his apprenticeship, and use his chemical knowledge to make himself a fine craftsman. Certainly there is no question but that a knowledge of chemistry will make you a more intelligent, well-informed person.

It would be fine if we could plunge at once into the chemistry of photography, or the chemistry of surface and deep-etch platemaking, but this is impossible. One must first understand the ABC's of chemistry. It is necessary to learn to "crawl" in the field of chemistry, before you can learn to "walk." Chemistry is an enormous field, and it will be impossible in this book to cover more than a small part of the field. Topics have been chosen which must be understood before the chemistry of lithography itself can be understood. Wherever possible, the relation of these topics to later practical applications in lithography will be mentioned. The purpose of this paragraph is to try to persuade you to "hang on" through the earliest part of the book. If you do, the chances are that you will find the later parts intensely interesting.

Some people who read this book will have had chemistry in high school, or perhaps even in college. Such people should remember that others have not had such an opportunity, or studied their chemistry so long ago that they have forgotten most of it. So this book will start right at the beginning, and proceed as if the reader knows nothing at all about chemistry. This should be enough for an introduction to the chemistry of lithography. *Let's get started!*