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Bibliography of Liesegang Rings

(Second Edition)

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Institute for Basic Standards
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Bibliography of Liesegang Rings

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A bibliography of Liesegang rings (periodic precipitation figures produced by diffusion) and other periodic structures for the period 1855–1965 is compiled in chronological and alphabetical order. An author index and an index to applications of Liesegang rings to extra-chemical fields are also given.

Key Words: Diffusion, Liesegang rings, periodic precipitation.

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Preface to the First Edition

In 1896 the photographer Raphael E. Liesegang discovered that when a crystal of silver nitrate is placed on a glass slide covered with a dilute solution of potassium dichromate in gelatin, the precipitate of silver chromate forms in bands or rings around the crystal (17).

Since the discovery of this phenomenon, now named after its discoverer, more than 600 papers have appeared on the subject. In 1932 E. S. Hedges included a bibliography in his book, "Liesegang Rings and Other Periodic Structures." Hedges listed not only papers dealing with Liesegang rings---i.e., structures caused by diffusion---but also a large number of works on periodic structures now known not to be Liesegang rings. Since Hedges' book is out of print, most of his references are included in the present bibliography.

In addition, the author has collected all the papers on true Liesegang rings (but not those on other periodic structures) listed by Chemical Abstracts for the period 1932 to 1952. In nearly all cases the original titles have been translated into English. A subject index listing papers of interest in fields other than chemistry has been included.

Preface to the Second Edition

Since the first edition of this bibliography was published by the University of Arkansas Editorial Service in 1955 approximately one hundred references to Liesegang rings have appeared in Chemical Abstracts. Permission to include the material of the first edition, now out of print, in this revision is greatly appreciated.

The new references, which concern only true Liesegang rings, have been merely added to the original bibliography of 681 references, many of which dealt with other kinds of periodic structures. The subject and author indices have been appropriately amended.

Errors found in the first edition have been corrected. All journal article titles and nearly all book titles have been translated into English. Abbreviations of journal titles are those given in the issue of Chemical Abstracts in which the given reference first appeared.

In the seventy years which have passed since the discovery of Liesegang rings the growing understanding of their formation has found application in fields as diverse as mineralogy, biology, and photography. This bibliography is a small contribution toward lightening the labors of workers in this field.

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