

**Sixty-first Annual Meeting Papers**

*Symposium on*

**SOLVENT EXTRACTION IN THE  
ANALYSIS OF METALS**



Published by the  
AMERICAN SOCIETY FOR TESTING MATERIALS  
1916 Race St., Philadelphia 3, Pa.

***ASTM Special Technical Publication No. 238***

# SYMPOSIUM ON SOLVENT EXTRACTION IN THE ANALYSIS OF METALS

---

Presented at the  
SIXTY-FIRST ANNUAL MEETING  
AMERICAN SOCIETY FOR TESTING MATERIALS  
Boston, Mass., June 23, 1958



Reg. U. S. Pat. Off.

---

*ASTM Special Technical Publication No. 238*

---

Price \$2.25; to Members \$1.80

Published by the  
AMERICAN SOCIETY FOR TESTING MATERIALS  
1916 Race St., Philadelphia 3, Pa.

---

© BY AMERICAN SOCIETY FOR TESTING MATERIALS 1958

Library of Congress Catalog Number: 58-59793

---

Printed in Baltimore, Md.  
December, 1958

## FOREWORD

---

The papers in this Symposium on Solvent Extraction in the Analysis of Metals were presented at the Fourth Session of the Sixty-First Annual Meeting of the American Society for Testing Materials held in Boston, Mass., June 23, 1958. The symposium was sponsored by ASTM Committee E-3 on Chemical Analysis of Metals through a Symposium Committee under the chairmanship of H. Freiser, Department of Chemistry, University of Arizona.

Mr. G. H. Morrison, Sylvania Electric Products, Inc., presided as Chairman of the Session of the Annual Meeting.

---

---

NOTE.—The Society is not responsible, as a body, for the statements  
and opinions advanced in this publication.

---

## CONTENTS

---

	PAGE
Introduction—H. Freiser and G. H. Morrison.....	1
Convergence of Tie Lines in Ternary Liquid Systems and Its Application to Liquid Extraction—R. L. Pilloton.....	5
Discussion.....	12
Metals Analysis with Thenoyltrifluoracetone—F. L. Moore.....	13
Discussion.....	25
The Use of Tri- <i>n</i> -Octylphosphine Oxide in Analytical Chemistry—J. C. White.....	27
Discussion.....	35
8-Hydroxyquinoline Extractions Applied to the Analysis of Metals—R. J. Hynek..	36
Use of Organic Solvents in Flame Photometry—J. A. Dean.....	43
Discussion.....	53