



ASTM INTERNATIONAL
Selected Technical Papers

Pesticide Formulation and Delivery Systems: 37th Volume

STP 1602

Editor:
Renee K. Edlund



SELECTED TECHNICAL PAPERS
STP1602

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Pesticide Formulation and Delivery Systems: 37th Volume, Formulations with Ingredients on the EPA's List of Minimal Concern

ASTM STOCK #STP1602
DOI: 10.1520/STP1602-EB

Library of Congress Cataloging-in-Publication Data

ISBN: 978-0-8031-7649-2

ISSN: 1040-1695

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Printed in Mayfield, PA
February, 2018

Foreword

THIS COMPILATION OF Selected Technical Papers, STP1602, *Pesticide Formulation and Delivery Systems: 37th Volume, Formulations with Ingredients on the EPA's List of Minimal Concern*, contains peer-reviewed papers that were presented at a symposium held October 25–27, 2016, in Orlando, Florida, USA. The symposium was sponsored by ASTM International Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents, and Subcommittee E35.22 on Pesticide Formulations and Delivery Systems.

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Overview

The 37th Symposium on Pesticide Formulation and Delivery, sponsored by ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents, was held on October 25–27, 2016, in Orlando, Florida. The symposium was organized under the auspices of Subcommittee E35.22 on Pesticide Formulations and Delivery Systems with Dr. James S. Namnath serving as symposium chair. Themed “Formulations with Ingredients on the EPA List of Minimal Concern,” the symposium focused on List 4 ingredients and featured a keynote address on Minimum Concern Inerts by R. Scott Tann.

Nineteen speakers described research on topics ranging from droplet-size control to the use of clays and minerals as inert ingredients. In this publication, 11 of the speakers present technical papers detailing their research. The papers address a wide range of topics in the field of agrochemical inerts.

On the subjects of spray drift and volatility of tank mixes, Dempsey, Sun, and Lindner introduce a polymeric drift control agent and evaluate its performance in a wind tunnel. Hoffmann et al. present methods for determining droplet diameter based on stain sizes on water-sensitive cards. The same group led by Fritz analyzes the effects of a variety of adjuvants and foliar fertilizers on fine droplet generation. Donald Penner and Jan Michael report that adjuvant chemistry and soil type alter volatility of auxinic herbicides.

A second group of papers offers insights into novel adjuvants. Organosilicone and lecithin-based adjuvants are discussed by Naue, Policello, and Brown. The authors investigate the impact of lecithins on surface properties of solutions containing the adjuvants. In further organosilicone research, Koczo et al. describe a foam control method for trisiloxane alkoxylate superspreaders, using modified trisiloxane alkoxylates. A third novel adjuvant report on styrene-maleic anhydride/polyetheramine comb polymer dispersants, submitted by Alan Stern, elucidates the relationships among styrene-maleic backbone composition, polyetheramine length, and dispersant performance in suspension concentrate formulations.

Richard Zollinger's team presents two articles about improving herbicide efficacy in the field. Devin Wirth and Zollinger investigate the relative adjuvancies of high surfactant oil concentrates in herbicide field trials and concluded that methylated seed oil may provide an advantage over petroleum oil in such formulations. Jason Adams and Zollinger evaluate the use of the soil-applied herbicide EPTC as an adjuvant for other herbicides applied post-planting.

The last two papers in the volume are unique. A review by G. Robert Goss discusses the many uses of clays in agricultural formulations and provides examples of clay as a carrier for biopesticides and useful microbes. Brehm, Keene, and Ng demonstrate that coatings applied to urea fertilizer granules may not penetrate the granules as deeply as the dyes with which the coatings are applied.

The symposium presenters and paper contributors are to be commended for their interesting and valuable work for the agrochemical inert community. This publication would not be possible without the generous assistance of manuscript reviewers. Jim Namnath was untiring as the symposium chair, keeping the presentations on track from start to finish. Todd O'Connell and Curtis Elsik provided invaluable assistance in assembling this STP. Thanks also to Huntsman Corporation for supporting the time commitment and effort of the editor and the symposium keynote speaker.

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ISBN: 978-0-8031-7649-2
Stock #: STP1602

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