

DEVELOPMENT OF COMMERCIAL WOOD PRESERVATIVES

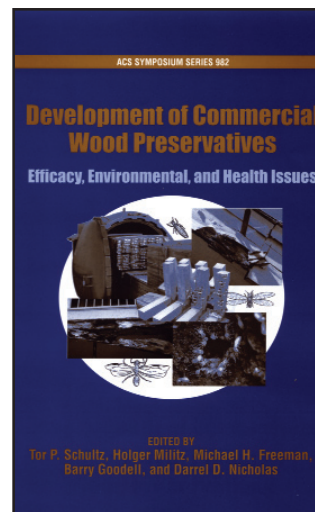
Efficacy, Environmental, and Health Issues

Edited by Tor Schultz, Holger Miltz, Michael H. Freeman, Barry Goodell, and Darrel Nicholas

Wood products are used extensively in residential construction and other outdoor applications where the wood can be degraded by many different organisms. To prevent degradation, wood products are treated with biocides. Treated wood is a sustainable, low-cost and effective building material which requires relatively little energy to manufacture, and trees sequester carbon dioxide from the atmosphere as they grow. Therefore, treated wood is an economical construction material and provides ecological benefits to society. However, wood preservation has recently undergone dramatic changes worldwide that have been driven by both real and perceived environmental concerns and governmental regulations.

The protection of wood against the many organisms that can degrade it has unique problems. The vector(s) employed must be effective against a wide variety of organisms and must last for the many years expected from treated wood. The worldwide market for wood-preserving biocides at the active supplier level is relatively small so only limited R&D expenditures are justified. Another challenge with wood is that it is a hygroscopic material that swells when wetted and shrinks as it dries, which leads to undesired dimensional changes that result in lumber in exterior applications splitting or warping over time. Furthermore, the surface of wood exposed to sunlight can photodegrade, and exterior lumber can have surface mold growth if left without maintenance. Therefore, certain species of wood decking gradually lose their initial attractive appearance and require maintenance over time.

This book outlines the many steps involved in developing a new wood preservative, written by international experts, that cover various biocides, efficacy testing, formulation development, biocide depletion, termite control methods, registration and approval processes, existing and potential preservative systems for various applications, and environmental and disposal concerns. In addition, overview chapters cover various aspects of wood deterioration, non-biocidal chemicals and processes to protect wood, worldwide trends in wood preservation, and mold and mold health issues in homes.



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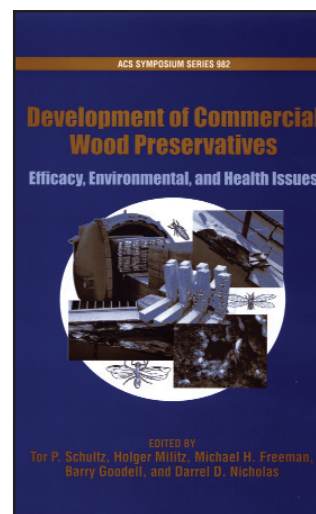
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