AICHE JOURNAL

FEBRUARY 1993 • VOL. 39, NO. 2

The AIChE JOURNAL, a monthly publication of the American Institute of Chemical Engineers, is devoted to fundamental research and developments having immediate or potential value in chemical engineering.

EDITOR

Matthew V. Tirrell

MANAGING EDITOR

Haeja L. Han

COPY EDITOR

Arthur H. Baulch

EDITORIAL ASSISTANT

Karen M. Simpson

CONSULTING EDITORS

Richard Alkire

Electrochemical Engineering

Robert A. Brown

Computation

Mark E. Davis

Catalysis

Morton M. Denn Materials

Carol K. Hali

Thermodynamics

George E. Keller, II

Separations

Michael T. Klein

Reaction Engineering

Douglas A. Lauffenburger

Bioengineering

Julio M. Ottino

Transport Processes

Glen H. Pearson

Materials Processing

Ronald W. Rousseau Crystallization

John Seinfeld

Environmental Engineering

Michael Shuler

Biochemical Engineering

George Stephanopoulos

Systems/Design

PRODUCTION DIRECTOR

Daniel Chillak

EDITOR-IN-CHIEF

Mark D. Rosenzweig

PUBLICATIONS DIRECTOR

Gary M. Rekstad

AICHE'S LOSS PREVENTION SYMPOSIA

Prepared by The Loss Prevention Committee

Timely and up-to-date manuals of an ongoing series in The Loss Prevention field.

Each volume provides current experiences and state-of-the-art technology for reducing accidents in the chemical and hydrocarbon processing industries. Regulatory issues and advances are examined, and case studies are provided.

Representing industry, academia, and government, these symposia will appeal to plant engineers and managers, constructors, designers, and producers.

An invaluable and up-to-date reference source.

Volume 16

Partial contents: regulatory issues and their effect on chemical plant safety and loss prevention; fire and explosion protection; characterization of the hazard potential of chemicals; emergency response planning and training; VAPOR clouds and BLEVES; case histories. Also includes a Loss Prevention Symposia database. 1992/610pp /ISBN 0-8169-0571-1 \$93.00 /Order Code: T87

Volume 15

Partial contents: process safety management; quantitative methods for process safety; miscellaneous topics; prevention, detection and mitigation of emergency releases; expert systems for process safety and loss prevention; case histories.

1992 /308pp /ISBN 0-8169-0570-3

\$69.00 /Order Code: T86

Complete your collection and save money at the same time.

Order a set of the two symposia for just \$123.75.That's a 23% discount.

To place an order, make check or money order payable to:

American Institute of Chemical Engineers, Publications Sales Department 345 East 47th Street, New York, NY 10017

For faster service, call (212) 705-7657 or FAX your order to (212) 752-3294.

Offer good in U.S. and territorial promotions only. International prices slightly higher.

Call AIChE Publications Sales for International prices.

AIChE Journal (ISSN 0001-1541) is published monthly by the American Institute of Chemical Engineers, 345 E. 47th St., New York, NY 10017. Manuscripts should be submitted to Editor Matthew V. Tirrell at the Dept. of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN 55455, phone (612) 625-5823, fax (612) 626-1686. The statements and opinions in the AIChE Journal are those of the contributors, and AIChE assumes no responsibility for them. Annual subscription rates: \$384 for nonmembers, \$60 for members, and \$30 for student members; outside U.S., add \$34 for postage. Single copies: \$38; outside U.S., add \$3 for postage. Second-class postage paid at New York, NY and additional mailing offices. Copyright 1993 by the American Institute of Chemical Engineers. Subscribers are requested to give prompt notification of any change of address. Postmaster: Send changes of address to AIChE Journal, 345 East 47th St., New York, NY 10017.

Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by AIChE for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the \$3.00 per copy fee is paid directly to CCC, 21 Congress St., Salem, MA 01970. This consent does not extend to copying for general distribution, for advertising or promotional purposes, for inclusion in a publication, or for resale. Articles published before 1988 are subject to the same copyright conditions and the fee

for each article is \$2.00. AIChE Journal fee code: 0001-1541/93 \$3.00.