



Dr. David J. Leggett, CChem, MRSC
Leggett Technical Consulting, LLC

Dr. David Leggett is principally involved in reactive chemical and process hazard assessments and related chemical process safety consulting services. For more than 25 years he has combined an extensive knowledge of chemistry with chemical process safety to provide advanced hazards and risk reduction consulting to the chemical, pharmaceutical, and petrochemical industries, nationally and internationally. He has participated in several industrial plant fires and explosion investigations, and has provided expert opinion and served as an expert witness in lawsuits involving chemical reactivity and process safety issues, chemical storage and handling of highly reactive and hazardous chemicals, and compliance with OSHA regulations from these accidents.

During his career in safety and loss prevention for the chemical and pharmaceutical industries, he has performed over 200 risk reviews in North America, Europe, and Asia utilizing all of the accepted hazard evaluation techniques. Two-thirds of these reviews have focused on understanding and managing the hazardous aspects of uncontrolled chemical reactivity. Dr. Leggett has developed company-wide chemical hazard identification and evaluation programs for several companies. Recently these efforts have been broadened to include academic research laboratories. These programs combine risk identification and risk minimization with the necessary supporting management structures. Lab-HIRA is a software manifestation of these efforts.

Prior to forming Leggett Technical Consulting in 2009 he was the Senior Principal Scientist for Baker Engineering (2000-2009), conducting numerous process hazard analyses and providing accident and litigation support. He also led their reactive chemicals laboratory using various calorimetric and standard test techniques including the DIERS methodology to provide the data needed for in-depth chemical reactivity hazard assessments and investigations. From 1995 to 2000 Dr. Leggett led the North American group of Hazard Evaluation Laboratories providing hazard evaluation consulting services to the chemical and pharmaceutical industries. Prior to that he was the reactive chemicals hazards testing manager for Dow Chemical (Texas Operations), responsible for hazards assessment support of eighty-five chemical manufacturing units. These processes included chlor-alkali, magnesium and aluminum, latex, polyolefin, polycarbonate, polyester, amines, ethylene oxide, multifunctional alcohol, halocarbon, urethane and isocyanate chemistries. He was also a member of Texas Operations Process Safety and Risk Analysis committee charged with conducting process hazard reviews for these manufacturing units.

Dr. Leggett is a regular speaker at National conferences, he has published over fifty technical papers in externally refereed journals since 1973, and has presented over sixty papers at local, national and international meetings. He has been the plenary speaker at national and international meetings; a Course Lecturer for American Institute of Chemical Engineering on Hazard Evaluation Techniques in Risk Assessment; and a Course Lecturer for Exothermic Chemical Reaction Hazards for the Center for Professional Advancement. During the last eight years he has developed, and presented nationally, a series of tools and techniques designed to simplify the risk analysis of reactive chemistries designed for use by chemists and chemical engineers during the research and development phase of chemical projects.

Professional Chronology: University of Waterloo, Postdoctoral Fellow, (1974-1975); University of Toronto, Canada, Assist. Professor, Chemistry (1975-78); University of Houston, Texas, Assist. Professor, Chemistry (1978-1982); Dow Chemical, TX Ops, Senior Research Chemist/Research Associate (1982-1996); Hazard Evaluation Labs, VP US Operations (1996-2000); Baker Engineering and Risk Consultants, Inc., Principal Scientist/Senior Principal Scientist (2000-2009); Exponent Failure Analysis Assoc., (2011); Leggett Technical Consulting, LLC President (2009 - present).

Memberships: American Chemical Society; The Royal Society of Chemistry; American Institute of Chemical Engineers; National Fire Protection Association.

Education: Graduate (1969), Royal Institute of Chemistry, Maidstone College of Technology, Kent, UK; PhD (1974), Analytical Chemistry, University of Waterloo, Ontario, Canada.