

## **Dr. James F. Sprouse**

Senior Analytical and Development Chemist for Chemvalon

### Analytical Experience Highlights:

Over 35 years of experience in Analytical Methods Development for R&D, Manufacturing, and environmental measurements. Pioneered on-line instrumentation and analytical techniques based on FTIR for real time monitoring of additives in molten polymers by interfacing directly to extruder barrels and high temperature reactors. Also, developed high temperature stack gas emissions monitoring instrumentation for continuous quantitative measurement of all acid producing gases and other organics without using extractive water vapor removal or pre-treatment of hot samples from industrial incinerators, refineries and manufacturing emission stacks. Expertise in on-line real-time Environmental Safety monitoring and analysis for toxic gases.

### Analytical Expertise/Instrumentation:

Infrared Spectroscopy (FTIR) instrumentation and Infomatics Technology (spectral interpretation)

Mass spectroscopy (Instrumentation and spectral interpretation)

Gas Chromatography Methods Development

High pressure Liquid Chromatography (HPLC)

Gel permeation Chromatography (GPC)

Ultraviolet and visible spectrophotometry

Potentiometric Titration methods

Light Scattering Technology

### R&D Experience and Interests:

Interface bonding of matrix materials to support substrates, i.e. fiber reinforced composites and surface treatments

Biodiesel Catalysts and Production support, i.e. problem solving

Unknown identification and product contamination analysis

New analytical method development