

# FORCON INTERNATIONAL

**CHARLES A. DANIELS, PhD**

## **SUMMARY**

Dr. Daniels is an accomplished leader within the Plastics/Polymers fields of expertise. Over the years Dr. Daniels has become known in the industry for his ability in identifying process and performance issues and implementing standards and solutions.

## **EDUCATION**

Ph. D. Chemistry and Polymer Science; Case Western Reserve University, 1969

M. S. Chemistry and Polymer Science; Case Western Reserve University, 1967

B.A. Chemistry; Utica College of Syracuse University, 1964

## **PROFESSIONAL ASSOCIATIONS**

Professional: Past member of Association for the Advancement of Medical Instrumentation and the Composites Fabricators Association; Past member of the Society of Plastics Engineers and the American Chemical Society; Past Member of the Council for Chemical Research, the Industrial Research Institute and the Chlorine Chemistry Council; Member of the Board of Trustees, Miami University Paper Committee (1985-1987); Certified Assessor for ISO 17025 for the American Association for Laboratory Accreditation (retired). Recipient of the SPE Vinyl Division Award for Outstanding Contribution to the Science of PVC. Member, American Association for laboratory Accreditation (2003-2013)

Community: Chairman, Board of Directors, Neighborhood House Association, 2003- 2008; Co-Chairman of the Avon Lake Board of Education Levy Committee (2001); Chairman, Avon Lake Board of Education Bond Committee (1999); Chairman of the Geon Company United Way Campaign Committee, 1998; Chairman of the Board of Trustees of the Lorain County Access to Education Organization, 1996-2001; founder of BF Goodrich/Geon Company/PDI Outstanding Science Scholar Internship Award for top science and math student in Avon Lake and Lorain, Ohio high schools.

## **CAREER HISTORY**

### **FORCON International – Chemistry Consultant**

Conducting forensic investigations and analysis, as well as provide expert witness testimony for cases involving polymer materials failures including laboratory evaluation.

### **Materials Performance Consulting, LLC – President**

Consulting services to the materials industry, specializing in polymer materials:

- Product and process diagnosis and resolution.
- Structure property relationships in polymer materials.
- Failure Analysis of Polymer materials.
- Expert witness testimony plastics and polymers.

### **Polymer Diagnostics, Inc.**

#### **• Legal and Technical Consultant**

Comprehensive research and testing facility, providing consultative and expert witness services in the fields of polymer materials, and their applications in areas such as automotive, medical, construction, packaging, electronics and consumer items.

#### **• President**

Responsible for establishing Polymer Diagnostics, Inc. as a leading international R&D and consulting company through exploration of new, more profitable markets, technologies and applications.

- Led corporate formation, including development of business model and strategic plan.

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- Grew revenues by 10% year over year, and staff by 50% over 4-year period.
- Developed a client base of over 400 companies, including every major global polymer producer.
- Achieved a customer satisfaction index of over 95% from 1997 to the present.

**Geon Company – Director of Technology:** The world's largest producer of Vinyl Compounds with sales of over \$1.8 billion.

Responsible for reorganizing and staffing polymer analytical organizations to ensure successful formation of the new Geon company upon its separation from the BFGoodrich Company. Selected key staff and facilities to support organizational and customer needs.

- Led organization in achieving national accreditation and ISO registration.
- Standardized all manufacturing QC laboratory procedures.
- Successfully resolved key environmental hazard assessment issues.
- Recruited and hired world-class key scientific assets that broadened the organization's skill sets.

**B.F. Goodrich Company:** One of the world's largest tire, rubber, plastics, specialty chemicals and aerospace companies.

- **Director of R&D**

Reported directly to the Division President, leading R&D programs for the Specialty Elastomers and Latex Division from 1985-1989, and BFG's largest operating unit, the Geon Vinyl Division, from 1989 to 1993. Responsible for the design and execution of all Research and Development programs, including the Vinyl Division's new product programs and the Elastomers and Latex R&D and technical service programs. Recruited, hired and developed key technical resources to support divisions' sales, marketing and manufacturing initiatives.

- Achieved two US patents for new products.
- Increased product revenues 25% in the first year, representing 130% of target.
- Developed several new vinyl products, resulting in the commercialization of the industry's first heat resistant vinyl compounds.
- Developed several new elastomer materials for the automotive, aerospace, adhesives and plastics modifications markets.
- Developed several value added dispersion products for the paper saturants, automotive, textile, adhesives and coatings industries.
- Responsible for \$20M research budget.

- **Manager, R&D**

Led four key research groups in plastics characterization, general purpose and specialty elastomers and PVC resin technology that developed and introduced new vinyl resins for the film, automotive and construction markets.

- Improved reproducibility of elastomer manufacturing process from 40% to over 95% in two years.
- Restructured research efforts in each business area; streamlined project management by instituting rigorous accountability procedures and project teams focused on well-defined objectives.
- Drove new efficiencies and quality measures, resulting in significant product uniformity, and more rapid development of new products by forming cross-functional teams with clear division objectives.

- **R&D Scientist**

Responsible for supporting companywide R&D efforts by utilizing modern polymer analytical methods to solve customer problems.

- Developed new polymer characterization methods for key BFG products.
- Led key technical initiatives on two company-wide strategic programs in developing technology to remove vinyl chloride from process streams and to solve critical performance issues delaying the transfer of new resin technology from R&D.
- Developed methods for prediction of process behavior of vinyl resins, a key component leading to BFG's worldwide licensing of monomer removal technology.
- Developed lab-scale methods and computer models to predict behavior of post polymerization behavior of vinyl resins in world-scale manufacturing plants.
- Granted two US patents on new products and process technology.

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## **ACADEMIC EXPERIENCE**

- Adjunct Professor, Lorain County Community College, 2003-2015; General, Organic and Biochemistry; Mathematics.
- Education Module Developer and Instructor, Elastomers Synthesis and Physical Chemistry of Elastomers, Akron University High Institute for Elastomer Industries, Polymer Science Division, 2010-2015.
- Adjunct Professor CSU, 1972-3, Polymer Science.
- Adjunct Professor, John Carroll University, 1970-1; Polymer Science.

## **PUBLICATIONS AND PATENTS**

- Four Patents and 30 technical publications on Polymer Solution Thermodynamics, Characterization and Rheology.
- Chapters in 3 texts on Polymer Materials.
- Co-author, Handbook of Polyvinyl Chloride, with Charles E. Wilkes and James W. Summers, Hanser Publications.

## **HIGHLIGHTED PROJECTS**

Over the past 18 years, Dr. Daniels has been engaged by various law firms as an expert witness for a variety of matters, including performance characteristics of polymer materials in several applications. The following is a highlight of some of those cases:

- The performance of polyolefin-based materials used in artificial turf fields world-wide in soccer, football, and baseball installations: The issue was the effect of formulation and process consistency on the chemical and mechanical stability of the turf fibers. Programs were designed to gather and interpret data to thoroughly investigate the mechanisms of the changes in properties of the polyolefin-based material.
- The Failure of underground gasoline storage tanks made of glass reinforced polyester composites: The issues were the construction of the tanks themselves, the materials employed and the consistency of manufacture of the composites. Programs were designed and carried out to quantify these effects.
- The performance of polymer-based fuel delivery flex pipe in contact with newer alcohol containing gasoline blends: The subject of the issues was the study of the resistance if the polymers employed to various grades of gasoline blends that may have led to leakage or permeation of the pipes.
- The alleged infringement of key claims in two patents involving roofing underlayment: This project required the design and execution of extensive polymer chemical and physical characterization of the products in question to determine whether the patent claims had been infringed.

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## CHARLES A. DANIELS, PhD – HIGHLIGHTED DEPOSITION AND/OR TESTIMONY SUMMARY

<u>DATE</u>	<u>Case</u>	<u>Court</u>	<u>Services</u>
Dec 7, 2018	VF OUTDOOR, LLC, Petitioner, v. COCONA, INC., Patent Owner. Case No.: IPR2018-00190 Patent No.: 8,945,287		Deposition
Nov 7, 2018	PolyExpert, Inc. et al. v Willow Ridge Inc, Case No. 14-CI-02112	Commonwealth of Kentucky, Kenton Circuit Court, Division	Deposition
May 30, 2018	Pleasant Grove ISD v. FIELDTURF USA INC., Altech, Inc. and Wyatt Sports, Inc f/k/a Sports Constructor's, Inc.		Testimony
Sept 16, 2016	Beecher v Dorel Case No. 15-CV-1152	Circuit Court of Racine County, Wisconsin	Deposition (settled)
Nov 12, 2014	James Cotereel and Crystal Naylor v Dorel Juvenile Group Inc., d/b/a Safety First No. 2:13-CV-4218		Deposition
Apr 2014	Fieldturf USA INC., Fieldturf Inc., and Fieldturf Tarkett SAS, Plaintiff, v Tencate Thiolon Middle East, LLC f/k/a Mattex Leisure Industries, Polyloom Corporation of America d/b/a/ Tencate Grass North America, and Tencate Thiolon B.V. Docket No. 4:11-CV-050-TWT	Federal Court, Atlanta, GA	Trial Testimony (settled during trial)
Feb 2013	Medicis Pharmaceutical Corporation, and DOW Pharmaceutical Sciences, Inc., Plaintiffs, v. Actavis Mid Atlantic, LLC, Defendant., CIVIL ACTION NO.1:11-CV-00409 (LPS) (CJB)		Deposition (settled)
Feb 2013	Trelleborg Coated Systems US, INC. and Dunlop GRG Holdings, Ltd., Claimants/Counter-Respondents, v. Echelon, LLC, d/b/a Berg Integrated Systems, Respondent/Counter Claimant Case No. 50 132 T 00248 11		Deposition (settled)
Sept 2012	Fieldturf USA INC., Fieldturf Inc., and Fieldturf Tarkett SAS, Plaintiff, V. Tencate Thiolon Middle East, LLC f/k/a Mattex Leisure Industries, Polyloom Corporation of America d/b/a/ Tencate Grass North America, and Tencate Thiolon B.V. Docket No. 4:11-CV-050-TWT		Deposition
June 2010	Lord Corporation v. S&B Technical Products Inc, Terramix S.A. and Mark A. Weih, defendants Civil Action No. 5:09-cv-00205-D		Deposition (settled)
Nov 2010	City of St. Petersburg, et al. v Total Containment et al. Case Number 06-CIV-		Deposition (settled)
June 2010	Eastern District of North Carolina, Lord Corporation v. S&B Technical Products Inc, Terramix S.A. and Mark A. Weih, defendants. Civil Action No. 5:09-cv-00205-D		Deposition
Apr 2, 2010	Companion Property and Casualty Insurance and the South Carolina Municipal Insurance and Risk Financing Fund as subrogee of the City of Georgetown, Plaintiff, v G 2 Corporation d/b/a Screen Tight, G 2 Corporation and Screen Tight, Defendants, C/A no. 08-CP-22-618		Deposition

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Sept 22, 2008	Loudermilk v Marathon Civil action 3:04-0966		Deposition.
Jul 18, 2008	Loudermilk v Marathon Civil action 3:04-0966		Deposition.
Dec 19, 2007	City of St. Petersburg, et al. v Total Containment et al. Case Number 06-CIV-		Deposition
Sept 18, 2006	Loudermilk v Marathon Civil action 3:04-0966		Deposition.
Aug 2, 2006	Loudermilk v Marathon Civil action 3:04-0966		Deposition
Feb 8, 2006	Morning Pride Mfg., Inc., v Lion Apparel, Inc., et al. Case no. C-3-89-486	US District Court, Dayton, OH.	Testimony
Nov 23, 2005	Morning Pride Mfg., Inc., v Lion Apparel, Inc., et al., Case no. C-3-89-486		Deposition
Oct 28, 2005	Advanced Neuromodulation Systems, Inc. v Advanced Bionics Corp. Case No. 4:04CV131		Patent Validity Deposition
Jul 14, 2005	Permacel Kansas City, Inc. v Soundwich Case No.03-766-CV-W-HFS		Deposition, (settled in April 2007)
Feb 4, 2005	Advanced Neuromodulation Systems, Inc. v Advanced Bionics Corp., Case No. 4:04CV131		Claims Construction Deposition
Apr 15, 2005	Advanced Neuromodulation Systems Inc v Advanced Bionics Corp, Case No. 4:04CV131	United States District Court for The Eastern District of Texas, Sherman Division	Testimony

**CHARLES A. DANIELS, PhD – HIGHLIGHTED EXPERT WITNESS SUMMARY**  
(not resulting in deposition or trial testimony)

<b>Date</b>	<b>Case</b>	<b>Court</b>	<b>Services</b>
Jun 2019	State of Illinois ex rel. Kenny Gilman, Kevin Reynolds, and Jennifer Bennett, Plaintiffs, v. Fieldturf USA, Inc., Fieldturf, Inc., Fieldturf Tarkett, and Tarkett, Defendants No. 2017-L-006277		
Apr 2019	The Sac and Fox Nation, Inc. v. Containment Solutions, Inc. et al, Case Number 2:17-cv-02416		
Jan 2019	Pacific Coast Building Products, Inc., Plaintiff, v. Certainteed Gypsum, Inc. and Saint Gobain Performance Plastics Corp., Defendant Case No. 5:18-cv-00346		Settled
	Stevens v. Boston Scientific Corp., et al, C.A. 2:16-cv-0265	Superior Court of the State of California for the County of Los Angeles, Central Civil West	
	Middleton-Cross-Plains Area School District v. FieldTurf USA, Inc. W.D. Wis. Case No. 16-CV-278 File No. 16-CV-278	United States District Court for the Western District of Wisconsin	

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	McCamey Independent School District, Plaintiff, v. FieldTurf USA Inc. and R.S. Global, Inc. Defendants, Cause No. 14-10-U4383-OTH	District Court of Upton County, 112th Judicial District	
Apr, 2016	Tides at Lakeshore East, LLC, v. Walsh Construction v. Alliance et al. No. 11 L 4140,	Circuit Court of Cook County, Illinois County Department - Law Division	Report Submitted (Settled during trial)
Apr 2016	PolyOne V. Polymax, Thompson Hine, Cleveland, OH		
Nov 17, 2014	Carolina Cushions v Miami Corporation Inc, Morbern USA, Inc. and Shannon Hardee		Settled
Apr 2014	Materion Brush Beryllium v. Middough Engineering		
Apr 2010	Glenn Thweatt and Billie Ferris Thweatt v Textron, Inc		Settled out of court
May, 2009	Engineered Plastics Corporation v Ovation Polymer Technology and Engineered Materials, Inc., et al. Case Number CV2008-04-2781		Settled out of court
May 21, 2008	Phoenix Plastics v RHO Industries Cause number 07-07-06871CV	District Court, 221St Judicial District, Montgomery, TX	Settled out of court
	Centex Rooney Construction Co., Inc. v Stonehenge, Inc. and First National Insurance Company of America Case Number 03-CA-625#33	Orange County Circuit Court	Settled out of court
	Hovey Williams-Permacel v Soundwich Case No.03-766-CV-W-HFS		Settled out of court
Nov 2004	Schumaker, Loop and Kendrick- First National v. Centex / Coronado Springs Resort, F3023		Settled
2003	Leola County PA - Pipe Authority		Mediation
	Goodyear Tire and Rubber Company v. Vista Resorts, Inc. Case No. 02CA1690	Court of Appeals, State of Colorado	Settled out of court
	Davis, et al v Goodyear Tire and Rubber Company Case No. 99-CV-594	District Court, Eagle County, Colorado	
	Avery Dennison v. Soliant v. PolyOne Corporation Case Number 1:04 CV 1865		Settled out of court