

TOM J. MARICICH, Ph.D.
CHEMICAL CONSULTANT / EXPERT WITNESS

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AREAS OF EXPERTISE: General and Organic Chemistry; Spontaneous Combustion; Cosmetics, Hair Bleach Burns; Peroxide; Chemical Safety; Fumigants; Decomposition of Chemicals; Metal and Chemical Explosions; Pyrotechnics; TDI Exposure; Polyurethane Foams; Degradation of Plastics; Structures and Properties of Psychoactive Drugs; Corrosive Acids and Bases; Propane and Flammable Propellants; Airbag Detonators; Solvents; Bleach; Surfactants and Detergents; Matching Chemical Formulations; Composition of Synthetic Urine.

EDUCATION

1961 BS Chemistry, University of Washington, Seattle, WA

1963 MS Organic Chemistry, Yale University, New Haven, CT

1965 Ph.D. Organic Chemistry, Yale University, New Haven, CT

EXPERIENCE

1975-Date **Professor of Chemistry, California State University, Long Beach**
Research in organic chemistry related to the development of organosulfur-nitrogen alkylating agents. Served for 20 Years on College of Natural Sciences and Chemistry Department safety committees, and as department safety committee chair. Taught courses in general, organic and physical organic chemistry. Promoted to professor in 1984. Emeritus professor in 2011.

1988-1992 **Acting Associate Dean, College of Natural Sciences, California State University, Long Beach, Long Beach, California**
Directed College Technical Services.

1971-Date **Consultant and Expert Witness to Various Attorneys and Law Firms (Listed Below).**

- 2007** **Consultant to Intelligent Energy, Inc., Long Beach, CA**
 Consulted on the properties of organic sulfur contaminants in hydrocarbon fuels.
- 2005** **Consultant to Lava Louie, Long Beach, CA**
 Consulted on surfactants used in lava lamps.
- 1999** **Consultant to Air Products and Chemical, Inc.**
 Provided methods for synthesis of epoxy-resin curing agents from isocyanates.
- 1998** **Consultant to Cal OSHA**
 Evaluated compatibilities of waste chemicals.
- 1998** **Consultant to Anchor Reinforcement, Inc.**
 Investigated urea polymer curing agents.
- 1982-1988** **Consultant to Niklor Chemical Company, Inc.**
1995-1999 Developed an alternative process for the production of the soil fumigant chloropicrin. Researched the chemistry of soil fumigants with thiosulfates.
- 1986-1990** **Consultant to Impex Company**
 Deformulation study to identify the composition of a polymer curing agent.
- 1986** **Consultant to Southwest Photo Chem, Inc.**
 Researched the literature of sulfur-nitrogen-containing polymer curing agents.
- 1981** **Assistant Visiting Professor, Univ. of Southern California Cancer Center**
 Conducted research on syntheses of potential anti-tumor agents.
- 1967-1975** **Assistant / Associate Professor of Chemistry, North Dakota State University, Fargo, North Dakota**
- 1971-1975** **Chemical Consultant, Forensic Engineers, Ltd., Fargo, North Dakota**
 Conducted chemical investigations and testified as an expert witness.
- 1971** **Collaborator on Project "River", Fargo, North Dakota**
 Participated in an environmental study of the Red River of North Dakota/Minnesota.
- 1965-1967** **Research Chemist, Shell Development Company, Emeryville, California**
 Worked in exploratory organosulfur-nitrogen chemistry.
- 1961-1965** **NIH Predoctoral Fellow, Graduate Teaching Assistant, Yale University**
 Conducted graduate research on the reactions of azides, sulfonylurethans and nitrenes. Taught organic chemistry laboratory.
- 1960-1961** **Undergraduate Research Assistant, University of Washington**
 Conducted research on unsaturated sulfonate esters.
- 1960** **Refinery Quality Control Tester, Shell Oil Company, Anacortes, WA**
 Performed all standard laboratory tests, including flash points, pour points, cloud points, vapor pressures, colors, specific gravities, distillation ranges, titrations, and pH determinations.

SELECTIVE LIST OF ATTORNEYS AND LAW FIRMS SERVED AS A CONSULTANT AND CHEMICAL EXPERT WITNESS

2011 Marc Shea of Shea & McIntyre, A P.C., San Jose, CA

2011 Tom Nagashima of Watson Law Group, Los Angeles, CA

2010-11 Theodore Aldrich of Brady, Vorwerck, Ryder & Caspino, Concord, CA

2010-11 Ryan Kohler of Collins, Collins, Muir & Stewart, LLP, South Pasadena, CA

2010 Robert Amador of Amador Kelly, LLP, Long Beach, CA

2010 Crosby Lyman of Lyman Law Firm, LLC, Baton Rouge, LA

2009-10 Sean D. Allen of Lorber, Greenfield & Polito, LLP, Poway, CA

2010 FredRico McCurry, Attorney at Law , Van Nuys, CA

2009-10 Kelly Ryan of the Ryan Law Firm, Pasadena, CA

2006-11 Gregory Moreno of Moreno, Becerra and Casillas, Montebello, CA

2008-10 Jay M. Borgeson of Henderson & Borgeson, Santa Barbara, CA

2009 * James Hamilton of Jones, Hamilton & Lay, Dyersburg, TN

2008 John F. Nicholson, Woodland Hills, CA

2008 Quynh-Loan V. Luong, Westminster, CA

2007-8 * William L. Buus of Buus Kim Kuo & Tran LLP, Newport Beach, CA

2007 Stephen F. O'Neill of Tarkington, O'Neill, Barrack & Chong, Santa Rosa, CA

2006-7 Arnoldo Casillas of Moreno, Becerra and Casillas, Montebello, CA

2006-7 # Thomas A. Goeltz of Goeltz & Frederick, APC, Escondido, CA

2005-7 # Ernest Price of Ropers Majeski Kohn Bentley Lawyers, Los Angeles, CA

2006 Rinat Erlich of Manning and Marder, Los Angeles, CA

2006 Robert Lisnow, Law Office, Los Angeles, CA

2006 FredRiccio McCurry, Esq., Santa Barbara, CA

2005 # Brian White, Law Office, San Diego, CA

2005 Kim Taylor of Trutanich Michel, LLP, San Diego, CA

2005 Stephen L. Dahm of Cesari, Werner and Moriarty, San Francisco, CA
2004 Kenneth Spencer of Baker, Keener & Nahra LLP, Los Angeles, CA
2004 Albert Liou of Musick Peeler & Garrett LLP, Los Angeles, CA
2004 Michael J. Treman, Law Office, Santa Barbara, CA
2004-5 Paul Potter of Potter, Cohn and Samulon, Pasadena, CA
2003 # Robert Klein, Law Offices of Robert Klein, Los Angeles, CA
2003 Scott Carr of Greene, Broillet, Panish & Wheeler, LLP, Santa Monica, CA
2003 Maryann Gallagher of Grassini & Wrinkle, Woodland Hills, CA
2002 Thomas McNamara of McClaugherty & Associates, Arcadia, CA
2002 Damon Ribakoff of Roxborough, Pomerance & Nye, Los Angeles, CA
2001 Kevin McNaughton of Schaffer, Lax, McNaughton & Chen, Los Angeles, CA
2001 A. Gina Hogtanian of Acker, Kowalick & Whipple, Los Angeles, CA
1999 * Kristen Bingham of Steven L. Zelig & Associates, Los Angeles, CA
1999 Jennifer Nutter of Fink & Feldman, LLP, Los Angeles, CA
1999 Derek Classen of the Law Offices of Prindle, Decker & Amaro, Long Beach, CA
1998 * Adam Shea of Greene, Broillet, Taylor, Wheeler & Panish, Santa Monica, CA
1998 Terrence Butler, Attorney, Beverly Hills, CA
1998 Patrick Madden of Cameron, Madden, Pearlson & Gale, Long Beach, CA.
1997 James McKanna of Borton, Petrini & Conron, San Luis Obispo, CA
1997 Steven Fabiano of Taylor, Fabiano, Gilmore & Sullivan, Calabasas, CA
1997 Herbert Papenfuss, Attorney, Canoga Park, CA
1997 William Marquis, Attorney, Tustin, CA
1997 Dale Ortmann of Hunt, Ortmann, Blasco, Palffy & Rossell, Pasadena, CA
1997 Carol Janssen of Borton, Petrini & Conron, San Luis Obispo, CA
1996 John Amoroso of Amoroso Law Corp., Los Angeles, CA
1996 * Jason Rund of Norton, Reino & Ainbinder, Lakewood, CA

1995 John West and Michael Maroko of Allred, Maroko & Goldberg, Los Angeles, CA.
1994 Peter Cathcart, Attorney, Los Angeles, CA
1994 # William Kopeny, Attorney, Santa Ana, CA
1993 # Charles T. Spagnola, Attorney, Santa Ana, CA
1992 Cornelius P. Bahan, Attorney, Santa Ana, CA
1992 Benjamin Barnes of Mallory, Brown-Curtis & Mallory, Los Angeles, CA
1991 James E. Ballidis of Allen and Flatt, Inc., Newport Beach, CA
1990 Milton C. Grimes, Attorney, Santa Ana Heights, CA
1990 M. Lawrence Lallande, Sr. of Perona, Langer, LaTorraca & Beck, Long Beach, CA
1987 # J. W. Biddle, Attorney, Beverly Hills, CA
1986 # N. DeWitt of Paul, Hastings, Janofsky & Walker, Los Angeles, CA
1973 ## John Kelly of Vogel, Vogel, Brantner and Kelly, Fargo, ND

*** Deposition Testimony # Testified in Trial**

TYPICAL EXAMPLES OF CASES AS A CHEMICAL EXPERT WITNESS

- Photo Investigation of Faded Markings
- Traffic Paint Analyzed for Presence of Anti-Slip Particles
- Spontaneous Combustion Fire
- Hazardous Properties of Hair Bleach and Colorants
- Liquid Crystal Purity
- Formulation and Properties of a Disinfectant Cleaner
- Cosmetic Formulations
- 55-Gallon Drum Explosion
- Corrosive Properties of Ready-Mix Cement
- Properties of Hazardous Chemicals in Creosote
- Properties of Phenol and Chemical Safety
- Hydrogen Sulfide Asphyxiation from Sulfuric Acid Drain Cleaner Reaction with Garbage Disposal Sludge
- Properties of Roundup Herbicide
- Explosive Materials
- Injury Explosion from Unstable Azide Compound
- Laboratory Fire and Safety
- Metal Explosion
- Lye Explosion
- Evaluation of Potential Residues from Sulfuryl Fluoride Termite Fumigation

- Lava Lamp Surfactant Formulation
- Surfactant Formulations for Automotive Products
- Inkjet Printer Ink Formulations and Physical Properties
- Release of Fumes from Incompatible Chemicals Mixed in Tanker Truck
- Chlorine Pool-Chemical Fire/Toxic Cloud
- Pyrotechnic Explosive Testing
- Exposure to Toluene Diisocyanate
- Analysis of Defective Liquid Crystal Products
- Methods for Analysis and Disposal of Waste Gases and Organic Liquid Wastes
- Acid Damage to Automotive Body Paint
- Explosion of Zirconium Potassium Perchlorate Airbag Detonator Chemical Mixture
- Flammable Hydrocarbon Propellant Gas Explosion
- Propane Gas Explosion
- Propane Gas Asphyxiation Studies
- Diesel Fuel Tank Explosion
- Dithiocarbamate / Carbon Disulfide Explosion
- Structures and Properties of Psychoactive Drugs
- Photo, Thermal, and Chemical Degradation of Plastics
- Burns by Concentrated Sulfuric Acid, by Lye and by Hot Liquid Detergents
- Formaldehyde-Releasing Preservatives in Cosmetics
- Polymerization of Methyl Methacrylate in Acrylic Nail Formulations

MEMBERSHIPS

- American Chemical Society
- Phi Lambda Upsilon and Sigma Xi Science Honorary Societies
- Listed in American Men and Women of Science
- Listed in International Directory of Research and Development Scientists

PUBLICATIONS

1. Christine Bradford (presenter), Nai-Chia Kuan, Jeremy Wood, and Tom J. Maricich, "Facile, One-Step Alkylation of Alcohols and Phenols by N-t-Butyl-O-ethyl-p-nitrobenzenesulfonimidate," 41st Western Regional Meeting of The American Chemical Society (San Diego), October 2007. [Award-Winning Poster Presentation]
2. Andrea I. Chen (presenter), Tom J. Maricich, Dustin Wride, Matthew J. Allan, Brett Kislin, and Nguyen-Phuong Pham, "Alkylation Reactions of O-Alkyl Sulfonimidates," 40th Western Regional Meeting of The American Chemical Society (Anaheim), Paper No. 127, January 2006.
3. With C. N. Angeletakis, "Reaction of Benzenesulfinyl Azide with Thiols and Amines. Preparation of Thiosulfonates and Sulfinamides", *J. Org. Chem.*, 1984, 49, 1931.
4. With C. N. Angeletakis and R. Mjanger, "Kinetics of the Thermal Decomposition of Benzenesulfinyl Azide, " *J. Org. Chem.*, 1984, 49, 1928.

5. With F. Freeman and C. N. Angeletakis, "m-Chloroperoxybenzoic Acid Oxidation of S-Phenyl-2, 2-Dimethylpropanethiosulfinate," *J. Org. Chem.*, 1982, 47, 3404.
6. With F. Freeman and C. N. Angeletakis, "Support for an α -Disulfoxide Intermediate in the Peroxy Acid Oxidation of Neopentyl Phenyl Disulfide and its Monoxides," 183rd ACS National Meeting (Las Vegas), Paper ORGN-99, March, 1982.
7. With F. Freeman and C. N. Angeletakis, " α -Disulfoxide and Sulfinic Anhydride in the Peroxyacid Oxidation of 2-Methyl-2-propyl 2-Propanethiosulfinate," *J. Am. Chem. Soc.*, 1981, 103, 6232 and 1981, 103, 7797 (Correction).
8. With F. Freeman and C. N. Angeletakis, "Common Intermediates in the Peroxyacid Oxidation of Neopentyl Phenyl Disulfide and Its Monoxide Derivatives," Pacific Conference on Chemistry and Spectroscopy (Anaheim), Paper No. 234, October, 1981.
9. With F. Freeman and C. N. Angeletakis, "Conversion of Alkyl α -Disulfoxides to Sulfinic Acid, Thiolsulfonates, and Sulfines," Pacific Conference on Chemistry and Spectroscopy (Anaheim), Paper No. 178, October, 1981.
10. With F. Freeman and C. N. Angeletakis, ¹H NMR and ¹³C NMR Spectra of Disulfides, Thiolsulfonates and Thiolsulfonates, "*Org. Magn. Reson.*", 1981, 17, 53.
11. With F. Freeman and C. N. Angeletakis, "Formation of Sulfines in the Peroxyacid Oxidation of Neopentyl Neopentanethiosulfinate," *Tetrahedron Lett.*, 1981, 22, 1867.
12. With F. Freeman and C. N. Angeletakis, "Detection of Intermediates in the Oxidation of an Alkyl Thiolsulfinate," Second Chemical Congress of the North American Continent (Las Vegas), Paper ORGN-267, August, 1980.
13. With M. H. Khalil, "Reactions of Diphenylsulfanuric Chloride with Amines," *Inorg. Chem.*, 1979, 18, 912.
14. With W. M. Ip, "Esterification and Amidation via Sulfonimidic Intermediates. Intra-Versus Intermolecular Acyl Transfer," ACS/CSJ Chemical Congress (Honolulu), Paper ORGN-412, April, 1979.
15. With C. Angeletakis, "Reaction of Benzenesulfinyl Azide with Thiols. Formation of Thiolsulfonates," 175th ACS National Meeting (Anaheim), Paper ORGN-142, March, 1978.
16. With S. Madusoodanan and C. A. Kapfer, "Convergence of Mechanisms between Sulfinyl Azide and N-Alkoxysulfonamide Reactions," *Tetrahedron Lett.*, 1977, 18, 983.
17. With M. H. Khalil and S. Madusoodanan, "Synthesis and [3,3]-Sigmatropic Rearrangement of Allylic Benzenesulfonimidates," 174 ACS National Meeting (Chicago), Paper ORGN-179, September, 1977
18. With M. H. Khalil, "Nucleophilic Substitution of 1-Chloro-3,5-diphenyl-1H, 3H, 5H-1, 3, 5, 2, 4, 6-trithiaziazene 1, 3, 5-Trioxide (Diphenylsulfanuric Chloride by Secondary Amines," *J. Chem. Soc., Chem. Comm.*, 1977, 195.
19. With M. H. Khalil, "Reactions of Diphenylsulfanuric Chloride with Amines," 172nd ACS National Meeting (San Francisco), Paper ORGN-87, August, 1976.

20. With S. Madhusoodanan and C. A. Kapfer, "Convergence of Mechanism between Sulfinyl Azide and N-Alkoxy sulfinamide Reactions," 172nd ACS National Meeting (San Francisco), Paper ORGN-86, August, 1976.
21. With V. L. Hoffman, "Chemistry of Benzenesulfinyl Azides. Reactions with Sulfoxides," *J. Am. Chem. Soc.*, 1974, 96, 7770.
22. With V. L. Hoffman and R. A. Jourdenais, "N-Alkoxy sulfinamides. Rearrangement and Alkylation of Alcohols and Thiols," VI International Symposium on Organic Sulfur Chemistry, Bangor, Wales, U.K., Paper C30, July 1974.
23. With R. A. Jourdenais and T. A. Albright, "N-Alkoxy benzenesulfinamides. Evidence for an Alkylation Reaction", *J. Am. Chem. Soc.*, 1973, 95, 5831.
24. With R. A. Jourdenais and T. A. Albright, "N-Alkoxy benzenesulfinamides. A New Class of Alkylating Agents," 166th ACS National Meeting (Chicago), Paper ORGN-32 August, 1973.
25. With R. A. Jourdenais and C. K. Harrington, "Mechanism of the Thermolysis of Benzoyloxymethyl Phenyl Sulfoxide. A New Sulfoxide Fragmentation Reaction," *J. Am. Chem. Soc.*, 1973, 95, 2378.
26. With V. L. Hoffman, "Stereochemistry of the Sulfinyl nitrene Sulfoxide Reaction. Nucleophilic Substitution at Sulfur with Retention of Configuration," *Tetrahedron Lett.*, 1972, 12, 5309.
27. With V. L. Hoffman, "Stereochemistry of the Sulfinyl nitrene-Sulfoxide Reaction," Gordon Research Conference, Chemistry of Heterocyclic Compounds, New Hampton, New Hampshire, June, 1972.
28. With C. K. Harrington, "Meisenheimer Rearrangement of Methoxymethyl Phenyl Sulfoxide. The Formation and Disproportionation of Methoxymethyl Benzenesulfenate," *J. Am. Chem. Soc.*, 1972 94, 5115.
29. With C. K. Harrington and S. Anderson, "Sulfenate Intermediates in the Decomposition of α -Substituted Methyl Phenyl Sulfoxides," 161st ACS National Meeting (Los Angeles), Paper ORGN-13, March, 1971.
30. With V. L. Hoffman, "The Reaction of Arenesulfinyl Azides with Dimethyl Sulfoxide," *Tetrahedron Lett.*, 1971, 12, 727.
31. With V. L. Hoffman, "N-Benzenesulfonyldimethylsulfilimine from the Reaction of Benzenesulfinyl Azide with Dimethyl Sulfoxide," 4th ACS Great Lakes Regional Meeting (Fargo), June, 1970.
32. "Rearrangement of N-Alkoxy benzenesulfinamides to Benzenesulfonamides," 157th ACS National Meeting (Minneapolis), Paper ORGN-122, April, 1969.
33. "Benzenesulfinyl Azide and 1, 3, 5-Triphenyl-1, 3, 5, 2, 4, 6-Trithiatiazine 1, 3, 5-Troxide," *J. Am. Chem. Soc.*, 1968, 90, 7179.
34. With W. Lwowski, "Carbethoxynitrene by α -Elimination. Reaction with Hydrocarbons," *J. Am. Chem. Soc.*, 1965, 87, 3630.

35. "Carbathoxynitrene by α -Elimination," Ph.D. Dissertation, Yale University, 1965,
36. With W. Lwowski, "Carbathoxynitrene. Selectivity of the C-H Insertion," *J. Am. Chem. Soc.*, 1964, 86, 3164.
37. With W. Lwowski and T. W. Mattingly, Jr., "Photoreactions of Azodiformates with Ethyl Azidoformate and with Diethyl Azodiformate," *Tetrahedron Lett.*, 1964, 5, 1591.
38. With W. Lwowski and T. W. Mattingly, Jr., "Carbathoxynitrene," *J. Am. Chem. Soc.*, 1963, 85, 1200.
39. With E.L. Allred, "Acetolysis of 2-(endo-5-Norbornen-2-yl)ethyl p-Bromobenzenesulfonate," *Tetrahedron Lett.*, 1963, 4, 949.