

TOM J. MARICICH, Ph.D.

CHEMICAL CONSULTANT / EXPERT WITNESS

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AREAS OF EXPERTISE: Chemical Accident Reconstruction; General and Organic Chemistry; Spontaneous Combustion; Cosmetics; Cement; 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 and Chlorine; Surfactants and Detergents; Incompatible Chemicals; Hydrogen Sulfide; and Preservatives.

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 and the chemistry of soil fumigants. Served on College of Natural Sciences and Chemistry Department safety committees and as department safety committee chair for over 20 years. Taught courses in general, organic and physical organic chemistry. Promoted to professor in 1984.
- 1988-1992** **Acting Associate Dean, College of Natural Sciences, California State University, Long Beach, Long Beach, California**
Directed College Technical Services and collaborated on renovation of chemical fume hood system in science buildings.
- 1971-Date** **Consultant and Expert Witness to Attorneys and Law Firms (Listed Below).**
- 2005** **Consultant to Electric Louie, Long Beach, CA.**
Provided expertise on ingredients for formulation of Lava Lamps.
- 1999** **Consultant to Air Products and Chemical, Inc.**
Provided production 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, University 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**
Served as chair of the department safety committee. Promoted to associate professor in 1971 and granted tenure in 1973.
- 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 interdisciplinary, 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, sulfonyurethans 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, Washington**
Performed all standard laboratory tests, including: flash points, pour points, cloud points, vapor pressures, colors, specific gravities, distillation ranges, titrations, and pH determinations.
- 1954-1964** **Commercial Salmon Fisherman, Puget Sound, Washington and Kodiak / Southeastern Alaska**
Crewman on salmon purse-seine fishing vessels.

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

- 2005-6** Gregory Moreno of Moreno, Becerra, Guerrero & Casillas, Montebello, CA
- 2005-6** Robert Lisnow, A Professional Corporation, Los Angeles, CA
- 2005-6** Ernest Price of Ropers Majeski Kohn Bentley Lawyers, Los Angeles, CA
- 2005** Kim Taylor of Trutanich Michel, LLP, San Diego, CA
- 2005** Stephen Dahm of Cesari, Werner and Moriarty, San Francisco, CA
- 2005** Fred Ricco McCurry, Esq., Van Nuys, CA
- 2005** Brian White, Law Offices of Brian White, San Diego, CA
- 2004-6** Paul Potter of Potter, Cohn and Samulon, Pasadena, CA
- 2004** Kenneth Spencer of Baker, Keener & Nahra, Los Angeles, CA
- 2004** Michael Treman, Esq., Santa Barbara, 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** Paul Broschay of Fieger, Fieger, Kenney & Johnson, Southfield, MI
- 2003** Maryann Gallagher of Grassini & Wrinkle, Woodland Hills, CA
- 2002** Thomas McNamara of McClaugherty & Associates, Arcadia, CA
- 2002** Damon Ribakof 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
- 2001** Richard Morris, Esq., 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

TYPICAL EXAMPLES OF CASES AS A CHEMICAL EXPERT WITNESS

- Photo Investigation of Faded Markings
- Spontaneous Combustion Fire
- Hazardous Properties of Hair Bleach and Colorants
- Liquid Crystal Purity
- Cosmetic Formulations
- “Empty” 55 Gallon Drum Explosion
- Corrosive Properties of Ready-Mix Cement
- Properties of Hazardous Chemicals in Creosote
- Properties of Phenol and Chemical Safety
- Properties of Roundup Herbicide
- Explosive Materials
- Laboratory Fire and Safety
- Metal Explosion
- Lye Explosion
- 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 Asphyxiation Studies
- Sodium 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
- Fatal Hydrogen Sulfide Release from Sewers Treated with Sulfuric Acid
- Azide Explosion
- Incompatible Chemicals in Tanker Truck

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. With C. N. Angeletakis, "Reaction of Benzenesulfinyl Azide with Thiols and Amines. Preparation of Thiosulfinates and Sulfinamides", *J. Org. Chem.*, 1984, 49, 1931.
2. With C. N. Angeletakis and R. Mjanger, "Kinetics of the Thermal Decomposition of Benzenesulfinyl Azide", *J. Org. Chem.*, 1984, 49, 1928.
3. With F. Freeman and C. N. Angeletakis, "m-Chloroperoxybenzoic Acid Oxidation of S-Phenyl-2, 2-Dimethylpropanethiosulfinate", *J. Org. Chem.*, 1982, 47, 3404.
4. 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.
5. With F. Freeman and C. N. Angeletakis, " α -Disulfoxide and Sulfinic Anhydride in the Peroxyacid Oxidation of 2-Methyl-2-propyl 2-Propanethiolsulfinate," *J. Am. Chem. Soc.*, 1981, 103, 6232 and 1981, 103, 7797 (Correction).
6. 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.
7. 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.
8. With F. Freeman and C. N. Angeletakis, ^1H NMR and ^{13}C NMR Spectra of Disulfides, Thiolsulfinates and Thiolsulfonates, "*Org. Magn. Reson.*", 1981, 17, 53.
9. With F. Freeman and C. N. Angeletakis, "Formation of Sulfines in the Peroxyacid Oxidation of Neopentyl Neopentanethiolsulfinate," *Tetrahedron Lett.*, 1981, 22, 1867.
10. 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.
11. With M. H. Khalil, "Reactions of Diphenylsulfanuric Chloride with Amines," *Inorg. Chem.*, 1979, 18, 912.
12. 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.
13. With C. Angeletakis, "Reaction of Benzenesulfinyl Azide with Thiols. Formation of Thiolsulfinates," 175th ACS National Meeting (Anaheim), Paper ORGN-142, March, 1978.
14. With S. Madusoodanan and C. A. Kapfer, "Convergence of Mechanisms between Sulfinyl Azide and N-Alkoxy-sulfinamide Reactions," *Tetrahedron Lett.*, 1977, 18, 983.

15. With M. H. Khalil and S. Madhusoodanan, "Synthesis and [3,3]-Sigmatropic Rearrangement of Allylic Benzenesulfonimidates," 174 ACS National Meeting (Chicago), Paper ORGN-179, September, 1977
16. With M. H. Khalil, "Nucleophilic Substitution of 1-Chloro-3,5-diphenyl-1H, 3H, 5H-1, 3, 5, 2, 4, 6-trithiatriazine 1, 3, 5-Trioxide (Diphenylsulfanuric Chloride by Secondary Amines," J. Chem. Soc., Chem. Comm., 1977, 195.
17. With M. H. Khalil, "Reactions of Diphenylsulfanuric Chloride with Amines," 172nd ACS National Meeting (San Francisco), Paper ORGN-87, August, 1976.
18. With S. Madhusoodanan and C. A. Kapfer, "Convergence of Mechanism between Sulfinyl Azide and N-Alkoxyulfonamide Reactions," 172nd ACS National Meeting (San Francisco), Paper ORGN-86, August, 1976.
19. With V. L. Hoffman, "Chemistry of Benzenesulfinyl Azides. Reactions with Sulfoxides," *J. Am. Chem. Soc.*, 1974, 96, 7770.
20. With V. L. Hoffman and R. A. Jourdenais, "N-Alkoxyulfonamides. Rearrangement and Alkylation of Alcohols and Thiols," VI International Symposium on Organic Sulfur Chemistry, Bangor, Wales, U.K., Paper C30, July 1974.
21. With R. A. Jourdenais and T. A. Albright, "N-Alkoxybenzenesulfonamides. Evidence for an Alkylation Reaction", *J. Am. Chem. Soc.*, 1973, 95, 5831.
22. With R. A. Jourdenais and T. A. Albright, "N-Alkoxybenzenesulfonamides. A New Class of Alkylating Agents," 166th ACS National Meeting (Chicago), Paper ORGN-32 August, 1973.
23. 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.
24. With V. L. Hoffman, "Stereochemistry of the Sulfinylnitrene Sulfoxide Reaction. Nucleophilic Substitution at Sulfur with Retention of Configuration," *Tetrahedron Lett.*, 1972, 12, 5309.
25. With V. L. Hoffman, "Stereochemistry of the Sulfinylnitrene-Sulfoxide Reaction," Gordon Research Conference, Chemistry of Heterocyclic Compounds, New Hampton, New Hampshire, June, 1972.
26. With C. K. Harrington, "Meisenheimer Rearrangement of Methoxymethyl Phenyl Sulfoxide. The Formation and Disproportionation of Methoxymethyl Benzenesulfenate," *J. Am. Chem. Soc.*, 1972 94, 5115.
27. 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.
28. With V. L. Hoffman, "The Reaction of Arenesulfinyl Azides with Dimethyl Sulfoxide," *Tetrahedron Lett.*, 1971, 12, 727.

29. With V. L. Hoffman, "N-Benzenesulfonyldimethylsulfilimine from the Reaction of Benzenesulfinyl Azide with Dimethyl Sulfoxide, " 4th ACS Great Lakes Regional Meeting (Fargo), June, 1970.
30. "Rearrangement of N-Alkoxybenzenesulfinamides to Benzenesulfonamides," 157th ACS National Meeting (Minneapolis), Paper ORGN-122, April, 1969.
31. "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.
32. With W. Lwowski, "Carbathoxynitrene by α -Elimination. Reaction with Hydrocarbons," *J. Am. Chem. Soc.*, 1965, 87, 3630.
33. "Carbathoxynitrene by α -Elimination," Ph.D. Dissertation, Yale University, 1965,
34. With W. Lwowski, "Carbathoxynitrene. Selectivity of the C-H Insertion," *J. Am. Chem. Soc.*, 1964, 86, 3164.
35. With W. Lwowski and T. W. Mattingly, Jr., "Photoreactions of Azodiformates with Ethyl Azidoformate and with Diethyl Azidoformate," *Tetrahedron Lett.*, 1964, 5, 1591.
36. With W. Lwowski and T. W. Mattingly, Jr., "Carbathoxynitrene," *J. Am. Chem. Soc.*, 1963, 85, 1200.
37. With E.L. Allred, "Acetolysis of 2-(endo-5-Norbornen-2-yl)ethyl p-Bromobenzenesulfonate," *Tetrahedron Lett.*, 1963, 4, 949.