

**Robert Scofield, D. Env., M.P.H.***Principal Toxicologist***EDUCATION**

D. Env., Environmental Science &amp; Engineering, School of Public Health, University of California, Los Angeles, 1984

M.P.H., Environmental Health Management, University of California, Los Angeles, 1977

B.A., Biology, UCLA, 1975

Email: [rscofield@gsi-net.com](mailto:rscofield@gsi-net.com)**BIOGRAPHICAL SUMMARY**

Dr. Scofield is a Principal with GSI Environmental, Inc., and has more than 35 years of experience performing human health risk assessments for air emissions, contaminated land sites, and consumer products. He also has extensive experience teaching risk assessment, providing comments on proposed regulations and providing risk communication services for companies and communities. He has worked extensively with regulatory agencies including the USEPA, DTSC, OEHHA, CARB as well as RWQCBs and APCDs in the State.

Dr. Scofield has also performed and reviewed over a hundred human health risk assessment for ambient air emissions from mobile sources (e.g., diesel exhaust), industrial operations, hazardous waste disposal and storage facilities, and other sources. He evaluated health risks from a variety of mobile and stationary diesel emission sources at a proposed transmodal facility at the Port of Los Angeles, from several rail yards in California, and from a variety of mobile and stationary sources, including emergency generators, construction equipment, loading docks, oil drilling equipment, and major roadways.

He has performed over 500 human health risk assessments for contaminated land sites under a variety of regulatory programs including CERCLA, RCRA, and California Brownfield programs; and he has a great deal of experience working the regulators at the USEPA, DTSC, various Regional Water Quality Control Boards and CUPAs.

In the area of product safety, Dr. Scofield has completed well over 600 risk assessments involving the evaluation of health risks and estimation of chemical exposure to consumer products, pesticides, food, dietary supplements, medicines, and medical devices.

He was an active member of the ASTM committee that developed the standard for Risk Based Corrective Action (RBCA) for Petroleum Release Sites. Dr Scofield was a member of the National Academy of Sciences committee on Natural Attenuation.

**PRACTICE AREAS:**

- ✓ Human Health Risk Assessment
- ✓ Vapor Intrusion Evaluation and Mitigation
- ✓ Site Assessment and Remediation
- ✓ Regulatory Interaction
- ✓ Litigation Support and Expert Witness
- ✓ Product Safety
- ✓ Air Toxics Risk Assessment

**INDUSTRIES:**

- ✓ Real Estate
- ✓ Petroleum
- ✓ Aerospace
- ✓ Transportation
- ✓ Metal Recycling
- ✓ Dry Cleaners
- ✓ Groundwater Supply
- ✓ Consumer Products



## Robert Scofield, D. Env., M.P.H.

### Biographical Summary

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Dr. Scofield is a Principal Toxicologist and Vice President with GSI Environmental, Inc., and has more than 36 years of experience directing and conducting environmental health risk assessment, remediation and due diligence projects in the United States and abroad. He also has extensive experience performing health risk assessment for ambient and indoor air emissions, product safety evaluations, teaching risk assessment, providing risk communication services, and serving as a third party neutral reviewer of risk assessments for various government and private parties.

He has managed or performed health risk over 500 human health risk assessments for chemicals in soil, water, and air. These evaluations have including major Superfund sites, RCRA Sites, agricultural chemical sites, Brownfield redevelopment sites, petroleum spill sites, manufactured gas plant sites, and other waste disposal or spill sites. He has also performed and reviewed multi-pathway risk assessments for mobile and fixed sources of diesel exhaust emissions, municipal and hazardous waste incinerators, and air emissions from industrial process stacks and research laboratories under a variety of State, Federal, and international regulatory programs and in support of risk communication. He evaluated health risks from a variety of mobile and stationary diesel emission sources at a proposed transmodal facility at the Port of Los Angeles, from several rail yards in California, and from a variety of mobile and stationary sources, including emergency generators, construction equipment, loading docks, oil drilling equipment, and major roadways.

He has performed or peer reviewed risk assessments conducted in many countries in Europe, Asia, and South America. In Australia, he has performed or reviewed more than 20 risk assessments for contaminated land and air toxics sites in Australia. Dr. Scofield was an approved risk assessor by the New South Wales government for risk assessments performed under their Site Auditor program. He has extensive experience performing critical evaluations of toxicology and epidemiology literature for setting exposure limits, characterizing dose- response relationships, and evaluating evidence for causal relationships between chemical exposures and adverse health effects. He has served on peer review committees for the U.S. Department of Defense and State of California.

In the area of product safety, Dr. Scofield has completed over 300 risk assessments involving the estimation of chemical exposure to consumer products and food. Dr. Scofield has taught and lectured extensively on risk assessment at universities, for private industries, and for the California Bar Association. He was an active member of the committee that developed the ASTM Standard, Risk Based Corrective Action (RBCA) for Petroleum Release Sites. In support of the American Petroleum Institute and the USEPA program to implement RBCA programs within State agencies, he taught basic toxicology, risk assessment, and risk-based corrective active action to several State agencies. He was part of a team that developed and taught a class in toxicology and risk assessment for project managers within the Department of Defense. Dr. Scofield was a member of the National Research Committee on Natural Attenuation. He has been an invited speaker at the Brownfields Asia Conference on two occasions and was invited to present a guest lecture on risk assessment to the Chinese Research Academy of Environmental Sciences in 2008. He was invited to participate in a special meeting of the Toxicology Section of the Royal Society of Chemists in the United Kingdom to participate in discussions on the topic of determining significant health risk; and he recently served as an invited peer reviewer for the Category 4 Screening Levels developed for the UK Department of Environment, Food, and Rural Affairs for evaluating contaminated lands.

Dr. Scofield is frequently invited to speak on Proposition 65, and he has provided risk communication support for several clients at public hearings and community meetings.

### Professional Background

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*Vice President and Principal Scientist, GSI Environmental Inc., Houston, Texas, 2014 to present*

*Principal Scientist*, Director of Health Science Center for Exposure Assessment and Dose Reconstruction, Exponent, 2009-2014

*Principal and Human Health Risk Assessment Practice Area Leader*, ENVIRON International Corporation, 1985-2009

*Post-doctoral Researcher*, UC Davis Department of Environmental Toxicology, 1982-1985

*Member Technical Staff*, TRW Environmental Division, 1979-1982

## **Education**

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D. Env., Environmental Science and Engineering, School of Public Health, University of California, Los Angeles, 1984.

M.P.H., Environmental Health Management, University of California, Los Angeles, 1977. B.A., Biology, University of California, Los Angeles, 1975.

Post-doctoral Researcher, Department of Environmental Toxicology, University of California, Davis, 1983-1985

TRW Scholar, Toxicology, Department of Environmental Toxicology, University of California, Davis, 1982-1983

## **Professional Certifications and Affiliations**

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Society for Risk Analysis, Chair Exposure Assessment Section; 2010 and 2011

Genetic and Environmental Toxicology Association, President-Elect 1996-1997, Elected to Executive Board, 1992-1993

Northern California Chapter, Society of Toxicology, Appointed Program Chairman, 1991 and 1992

Northern California Chapter of the Society of Risk Analysis, Elected Treasurer, 1992-1993 and 1996-1997

## **Selected Project Experience**

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Performed human health risk assessment and for PFAS and other chemicals in biosolids applied to forage crops at a large farm in California. Testified in court regarding the results.

Performed human health risk assessments for diesel emissions from several rail yards in California and from proposed track expansion projects.

Performed risk assessments for emissions from several port operations in southern California, including evaluation of net diesel emissions reductions associated with proposed expansion of a large transmodal terminal at the Port of Los Angeles

Prepared a critical evaluation of the unit risk factor developed by the California Office of Environmental Health Hazard Evaluation for diesel particulate matter.

Prepared a critical evaluation of the concentration-response function developed by the State of California for estimating numbers of premature deaths attributable to diesel particulate matter.

Performed more than 300 risk assessments under California's Proposition 65, including evaluations of consumer products, workplace exposures, and ambient environmental exposures. Services included deriving and critically evaluating No Significant Risk Levels (NSRLs) or Maximum Allowable Dose Levels (MADLs), performing exposure assessments, designing test protocols, and providing expert support for litigation and negotiation with plaintiffs.

On behalf of three utilities in California and the U.S. Navy, developed an approach to environmental management of former town gas sites based on comparison of site investigation data and post-remediation data to background levels of PAHs

- Directed or performed human health risk assessments for more than a dozen manufactured gas plant sites in southern California. Participated in negotiations with State regulators overseeing investigations and remediation, and participated in community meetings for two of the sites.
- Prepared risk-based remediation goals for a former pesticide manufacturing site in southern California, and negotiated a remediation plan with EPA.
- Performed multipath risk assessment of former oil refinery sites and petroleum spill sites using risk-based target concentrations to identify chemicals, exposure pathways, and areas requiring risk management.
- Performed risk assessments for many chlorinated solvent spill sites, including an evaluation of risk posed by the spilled solvent and the degradation products.
- Evaluated risks for vinyl chloride using EPA methodology to account for the extra sensitivity of children.
- Performed complete risk assessments and provided risk assessment support for permit applications of several hazardous waste treatment, storage, and disposal facilities.
- At more than 20 redevelopment sites and on behalf of real estate developers and lending institutions, calculated health risks associated with commercial and residential development of agricultural land with residual pesticides in surface soil. Negotiated remediation goals with agency representative and developed risk communication text as part of the developers' disclosure obligations.
- Advised the manufacturer of a new pesticide in the selection and design of toxicology studies to be submitted to the EPA and EEC in support of a registration request. Monitored performance of the studies by contract laboratories.
- Managed a project performing critical evaluations of the toxicology literature for several chemicals important in the lumber industry, including arsenic, creosote, chromium, and dioxins.

## **Selected Publications**

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- Scofield R and L Hall. "Health-Risk Assessment of Poly- and Perfluoroalkyl Substances in Soils and Crops from the Land Application of Biosolids". Accepted for presentation at the Fourth International Symposium on Bioremediation and Sustainable Environmental Technologies. May, 2017.
- Scofield, R, Invited Panelist "TPH - What is the Right Cleanup Level". Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May, 2016.
- Scofield, R. Panelist, "Science in the Courtroom". Proposition 65 Clearinghouse Annual Conference. September 2016
- Scofield R. Streamlining environmental and planning processes to facilitate the development of Green Field projects. Panelist at the 5th Annual Public Private Partnership USA Summit, Washington D.C., March 13, 2009.
- Scofield R. Cradle-to-cradle: From Proposition 65 to a new paradigm in green chemistry regulation. Invited Panelist, Los Angeles County Bar Association, Environmental Law Section, Los Angeles, CA, January 15, 2009.
- Scofield R, Stubbs C, Mitchell K. Vapour intrusion assessment at Brownfield Sites: An overview of the primary issues and current practice. Keynote Lecture, Brownfield Asia 2008, Kuala Lumpur, Malaysia, October 21–23, 2008.
- Scofield R. The evolving methods for evaluating health risks from "goods movement". Trends 2008; 39(6), July/August.
- Scofield R, Caviness G, Posson M. Unique risk communication challenges posed by estimating human health risks for diesel exhaust. Air and Waste Management Annual Conference and Exhibition, Portland, OR, June 24–27, 2008.
- Conder JM, Haroun L, Roberts S, Lockwood S, Scofield R, Hall S. Uptake of perchlorate by garden crops in perchlorate-impacted soil: Implications for risk assessment. Presented at Society of Environmental Toxicology and Chemistry (SETAC) North America, 26th Annual Meeting, Baltimore MD, November 13–17, 2005.