**Michael R. Schock, Chemist in EPA's National Risk Management Research Laboratory**

Water Systems Division
Mailing address

schock.michael@epa.gov

**Area of expertise:**

- Drinking water treatment, chemical equilibria of natural and drinking water systems, water sampling and analysis - lead, copper, corrosion control, chemistry of the carbonate and phosphate systems, and drinking water disinfection issues among others.
- Break-through research on the chemistry and control of tetravalent lead and cuprosolvency in drinking water, metal accumulation in distribution system pipe scales, and related "simultaneous compliance" guidance issues.
- Research into drinking water treatment with emphasis on corrosion control of premise plumbing and distribution systems, pipe scale and solids analysis techniques, regulatory interactions, and smaller water system problems.
- Consulted with other EPA offices, state agencies, consultants, private citizens, foreign entities including government technical staff, and a variety of utilities in the international water supply industry, providing solutions to numerous complex distribution system problems.

**Select publications**

Lead Plumbing Sources and Diagnostic Water Sampling. Lytle, D. A., Schock, M. R. and Triantafyllidou, S., *Opflow*, 44:3:16-20 (2018).

Mineralogical Evidence of Galvanic Corrosion in Drinking Water Lead Pipe Joints. DeSantis, M. K., Triantafyllidou, S., Schock, M. R. and Lytle, D. A., *Environ Sci Technol*, 52:6:3365-3374 (2018).

Scale Formation Under Blended Phosphate Treatment for a Utility With Lead Pipes. Wasserstrom, L. W., Miller, S. A., Triantafyllidou, S., DeSantis, M. K. and Schock, M. R., *Journal American Water Works Association*, 109:11:E464-E478 (2017).

Low Contribution of $PbO_2$-Coated Lead Service Lines to Water Lead Contamination at the Tap. Triantafyllidou, S., Schock, M. R., DeSantis, M. K. and White, C., *Environ Sci Technol*, 49:6:3746-54 (2015).

Importance of Pipe Deposits to Lead and Copper Rule Compliance. Schock, M. R., Cantor, A. F., Triantafyllidou, S., DeSantis, M. K. and Scheckel, K. G., *Journal American Water Works Association*, 106:7:E336-E349 (2014).

Detection and Evaluation of Elevated Lead Release from Service Lines: A Field Study. Del Toral, M. A., Porter, A. and Schock, M. R., *Environmental Science & Technology*, 47:16:9300-9307 (2013).

View more research publications by Michael Schock

**Education**

- M.S., Michigan State University, East Lansing, MI; Geology, 1978
- B.S., Wright State University, Dayton, OH; Geology, 1974

- Post-Graduate Academic Education: Equilibrium and physical chemistry, Aqueous and analytical chemistry and geochemistry, Environmental and analytical chemistry, Advanced water treatment chemistry, SEM/EDXA microanalysis.

**Professional Experience**

- Chemist (National Expert), EPA National Risk Management Research Laboratory (1995-present)
- Research Chemist, EPA Risk Reduction Engineering Laboratory (1989-1994)
- Associate Chemist, Illinois State Water Survey (1982-1989)
- Research Chemist, EPA Municipal Environmental Research Laboratory (1980-1982)

Active Professional Committees:

- Vice-Chair, NSF 61 "Extraction Water Chemistries" Task Group
- Chair, NSF 61 School Drinking Water Task Group
- USEPA Lead and Copper Rule Revisions, Six Year Review
- USEPA CCL4 and UCMR4 workgroups
- IWA Specialist Group Metals and Related Substances in Drinking Water (management committee)
- Assistant Editor for Peer-Review: Journal of the New England Water Works Association
- NSF Drinking Water Additives Program Mechanical Plumbing Products Task Group, ANSI/NSF Standard 61 (1987-1994; 2004-present)
- NSF 444 Joint Committee on Prevention of Injury and Disease Associated with Building Water Systems (2016-present)
- Standard Methods for the Examination of Water and Wastewater

Honors and Awards:

- 2018 AWWA Water Science and & Research Division Best Paper Award *"Scale Formation Under Blended Phosphate Treatment for a Utility with Lead Pipes"*
- 2017 USEPA ORD Impact Award for "Small Drinking Water Systems Communications Team"
- 2015 AWWA overall Jour. AWWA and Distribution & Plant Operations Division Best Paper Awards "*Importance of Pipe Deposits to Lead and Copper Rule Compliance"*
- 2011 American Water Works Association A. P. Black Award
- 2011 U. S. Environmental Protection Agency-ORD Scientific and Technological Achievement Award, Level III, for *"Critical analysis of Corrosion and Presentation of Guidance for Solving Drinking-Water Corrosion and Scaling"*
- 2010 *Environmental Science & Technology* "Excellence in Review" award
- 2009 AWWA Research Division Best Paper award co-author *"Pitting of Copper in High pH and Low Alkalinity Waters."*
- 2008 U. S. Environmental Protection Agency-ORD Scientific and Technological Achievement Award, Honorable Mention, for *"Exploring the Possible Unintended Consequences of Implementing Treatment Changes at a Drinking Water Utility"*

Revealing the Complicated Nature of Tap Water Lead Contamination: A Madison, Wisconsin, Case Study