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**TSCA FLUORIDE TRIAL WITNESS SPOTLIGHT**

# **DR. KATHLEEN THIESSEN**

Ph.D | Director and senior scientist at Oak Ridge Center for Risk Analysis

Authored several reports for the EPA on the health effects of environmental contaminants.

Served on the 2006 National Research Council panel that reviewed the toxicologic literature on fluoride.

*"The principal hazard at issue from exposure to fluoridation chemicals is IQ loss."*

Dr. Kathleen Thiessen was the plaintiff's fourth and final witness called to the stand in the recent TSCA fluoride trial.

Dr. Thiessen is a risk assessment scientist with a Ph.D in genetics from the University of Tennessee-Oak Ridge, School of Biomedical Sciences.

Dr. Thiessen is currently a senior scientist and Director at Oak Ridge Center for Risk Analysis. Her research focuses on the evaluation of exposures, doses, and risks to human health from trace levels of contaminants in the environment and in the use of uncertainty analysis for environmental and health risk assessment.

She has authored several reports<sup>1,2</sup> for the Environmental Protection Agency (EPA) on the health effects of environmental contaminants.

Dr. Thiessen has served on two National Research Council (NRC) subcommittees, including the 2006 NRC committee<sup>3</sup> that was asked by the EPA to review the toxicologic literature on fluoride.

That NRC review concluded that:

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*Fluorides have the ability to interfere with the functions of the brain and the body by direct and indirect means.”*

The NRC also concluded in the report that fluoride is an endocrine disrupting chemical which can alter thyroid function.

As an expert witness in the TSCA fluoride trial, Dr. Thiessen provided a summary of opinions to the court on behalf of the plaintiffs, which included the Fluoride Action Network.

In the case, Dr. Thiessen applied EPA risk assessment frameworks to the current literature on fluoride to determine if neurotoxicity is a hazard of fluoride exposure at levels added to drinking water for fluoridation. Her risk assessment concluded that:

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*Under EPA’s Guidelines for Neurotoxicity Risk Assessment, there is sufficient evidence to conclude that neurotoxicity is a hazard of fluoride exposure.”*


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*The animal data on fluoride neurotoxicity are consistent with the epidemiological data in showing a risk of cognitive deficits at doses of fluoride ingested from fluoridated water.”*

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*Fluoridation chemicals present an “unreasonable risk” of neurotoxic effects, including IQ loss, if assessed under the same risk characterization and risk determination framework that EPA uses in its evaluations of other chemicals under TSCA.”*

Looking at the wealth of studies published on fluoride's neurodevelopmental harm in recent years, Dr. Thiessen concluded that:

 *The principal hazard at issue from exposure to fluoridation chemicals is IQ loss.”*

Dr. Thiessen implored the court to take appropriate legal action to mitigate the unreasonable neurotoxic risk fluoridated water presents to the public, especially to children.

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*Cognitive deficits, including in the range observed in fluoridated areas, are a sufficiently severe effect on human health to warrant prevention.”*

[Click here to access Dr. Thiessen’s full declaration.](#)

## References:

1. Thiessen, K. Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds: Health Issue Assessment. U.S. Environmental Protection Agency, December 17, 1998 [https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?Lab=NCEA&dirEntryId=47539](https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NCEA&dirEntryId=47539)
2. Thiessen et al, Summary Review of Health Effects Associated with Mercuric Chloride: Health Issue Assessment. U.S. Environmental Protection Agency, May 24, 2002 [https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?Lab=NCEA&dirEntryId=36411](https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NCEA&dirEntryId=36411)
3. National Research Council, Fluoride in Drinking Water: A Scientific Review of EPA's Standards, 2006 <https://www.nap.edu/catalog/11571/fluoride-in-drinking-water-a-scientific-review-of-epas-standards>