July 11, 2017

Comments on the National Toxicology Program's "Draft Report on Carcinogens Monograph on Haloacetic Acids Found as Water Disinfection By-Products"

Environmental Working Group, a nonprofit research and policy organization with offices in Washington, D.C.; San Francisco, California; and Ames, Iowa, submits this letter in support of the National Toxicology Program's efforts to evaluate and identify the hazards posed to people by **haloacetic acids in drinking water** and the proposal to list these chemicals in the Report on Carcinogens. This report, published by the U.S. Department of Health and Human Services, is a congressionally mandated, science-based, public health document that NTP prepares and updates regularly. It serves as a basis for public policy decisions made by various federal and state agencies tasked with protection of public health.

Haloacetic acids are common drinking water contaminants that form when disinfectants such as chlorine interact with plant and animal waste in source water. EWG has been researching and educating Americans about the toxicity and concerns of water disinfection byproducts for almost two decades (EWG 2013).

Given the strong evidence of haloacetic acid carcinogenicity from animal studies and widespread human exposure to these chemicals, EWG fully supports and agrees with the NTP's proposed classification of the six following haloacetic acids as "reasonably anticipated to be human carcinogens":

- Dichloroacetic acid, containing two chlorine atoms;
- Dibromoacetic acid, containing two bromine atoms;
- Bromochloroacetic acid, containing one bromine and one chlorine atom;
- Bromodichloroacetic acid, containing one bromine and two chlorine atoms;
- Chlorodibromoacetic acid, containing one chlorine and two bromine atoms;
- Tribromoacetic acid, containing three bromine atoms.

This proposed classification is grounded in extensive research showing that the above haloacetic acids produce tumors in experimental animals and can be expected to similarly cause cancer in humans. EWG reviewed the analysis presented in the Draft Report and concurs with the NTP's conclusion that this listing is both justified and necessary.

While drinking water disinfection is critical to save lives and prevent illness from disease-causing microorganisms, when chlorine and other disinfectants react with

1436 U Street NW, Suite 100, Washington, DC 20009
p. 202.667.6982 | f. 202.232.2592
ewg.org

organic matter in the water, harmful disinfection byproducts like haloacetic acids are formed. These byproducts, the second largest group of halogenated disinfection byproducts, are found in the water of more than 250 million Americans, increasing the importance of the NTP's proposed classification.

EWG also urges the NTP to classify trichloroacetic acid as "reasonably anticipated to be a human carcinogen," based on evidence of liver neoplasms in male and female mice exposed to this chemical through drinking water, as documented by the California Office of Environmental Health Hazard Assessment in its review of this chemical (OEHHA 1999).

EWG also raises concerns about the health effects and potential carcinogenicity of iodine-containing haloacetic acids. In the draft monograph, NTP did not identify sufficient data for immediate classification of iodoacetic acids. Yet, research shows that iodine-containing disinfection byproducts are genotoxic in mammalian cells (Richardson 2008), and more research on these compounds is urgently needed.

The public health implications of the NTP research on haloacetic acids are significant because hundreds of millions of Americans, children and adults, are exposed to these disinfection byproducts, including haloacetic acids, every day when they drink tap water, shower, or swim in public pools. The identification of the cancer hazards of haloacetic acids is the necessary first step to protecting the public from cancer-causing disinfection byproducts.

In conclusion, EWG firmly believes that haloacetic acids should be listed in the national Report on Carcinogens as "reasonably anticipated to be human carcinogens." The general public, academic researchers, other government agencies, and water utilities all look up to the NTP for an unbiased assessment of cancer risks from chemicals in our environment and in our water. The health of all Americans – especially vulnerable populations and children – should be safeguarded from the toxic effects of water contamination, and NTP research and analysis is essential in this process.

Thank you for the opportunity to comment on this important assessment.

Submitted on behalf of the Environmental Working Group,

Tasha Stoiber, Ph.D., Senior Scientist
Environmental Working Group

500 Washington St. Suite 400
San Francisco, CA 94111
(415 963-0750

References

Environmental Working Group, 2013, Water Treatment Contaminants: Forgotten Toxics in American Water. Available at static.ewg.org/reports/2013/water_filters/2013_tap_water_report_final.pdf?_ga=2.236991296.1736848890.1499706616-2009753781.1455041018.

National Toxicology Program, 2017, Draft Report on Carcinogens Monograph on Haloacetic Acids Found as Water Disinfection By-Products. Available at ntp.niehs.nih.gov/ntp/about_ntp/monopeerrvw/2017/july/haadraftmonograph.pdf.

Office of Environmental Health Hazard Assessment (OEHHA), 1999, Evidence on the Carcinogenicity of Trichloroacetic Acid and its Salts. Available at oehha.ca.gov/media/downloads/crnr/tcaf.pdf.

S.D. Richardson et al., 2008, Occurrence and Mammalian Cell Toxicity of Iodinated Disinfection Byproducts in Drinking Water. Environ Sci Technol. 42(22): 8330-8.