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December 22, 2020

Environmental Working Group (EWG) comments supporting microbial and disinfection byproducts rule revisions by the Environmental Protection Agency.

Submitted to docket ID: EPA-HQ-OW-2020-0486

The Environmental Working Group, a nonprofit research and policy organization with offices in Washington, D.C., Minneapolis, Minn., San Francisco and Sacramento, Calif., is submitting comments and information in support of regulatory revisions to the State 1 and Stage 2 Disinfection Byproducts Rules on the regulation of additional disinfection byproducts in drinking water.

Research by EWG scientists published earlier this year offers new insight into the hazards of currently unregulated disinfection byproducts, and the evidence supports revision of the current rule. This study, “Analysis of cumulative cancer risk associated with disinfection byproducts in United States drinking water,” was published in the International Journal of Environmental Research and Public Health. (A PDF of the study is attached with these comments.)

Benchmark dose modeling of animal toxicology data suggests that brominated haloacetic acids, which are currently unregulated, are more carcinogenic than many regulated compounds. Exposure to disinfection byproducts through drinking water is essentially universal in the United States, and even small increases in risk represent large impacts to public health.

Along with a comprehensive compliance dataset for regulated disinfection byproducts, we analyzed the EPA unregulated contaminant monitoring program occurrence dataset for haloacetic acids and estimated the cumulative cancer risk from THM4 and HAA9 combined to be 1.7×10^{-4} to 6.2×10^{-4} after adjusting for age sensitivity, more than two orders of magnitude above the *de minimus* risk of 1×10^{-6} .

EWG also urges the EPA to consider the latest epidemiological research in its assessment of risk and its revision of the regulation of disinfection byproducts. Animal studies may only capture risks of a single chemical at a time, and even cumulative cancer risk estimates are limited to the contaminants included in the risk assessment.

Nearly 700 disinfection byproducts, which occur with a large degree of variability in drinking water, have been characterized. Many of these contaminants, in addition to

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the regulated compounds, may be contributing to cancer risk. The latest high quality human epidemiological data captures real world risks in response to mixtures of disinfection byproducts, as people are exposed to them today.

Using a separate risk assessment framework with epidemiological data, our analysis estimated lifetime cancer risk from disinfection byproducts at 2.1×10^{-4} to 5.7×10^{-3} , an additional order of magnitude higher than animal toxicology data suggests.

This study offers the first side-by-side comparison of cancer risk assessments based on toxicological and epidemiological studies of disinfection byproducts and highlights the value of using human data in health risks assessments to the greatest extent possible.

It has been proven that disinfection is essential for controlling microbial diseases, yet the current regulations governing disinfection byproducts are inadequate for protecting public health. For this reason, EWG recommends the EPA take action and set Maximum Contaminant Levels for all carcinogenic haloacetic acids.

Additionally, EWG urges the EPA to implement source water protection policies that would reduce the runoff of fertilizer, wastewater and animal waste entering drinking water sources and, subsequently, reduce the formation of disinfection byproducts.

Submitted on behalf of the Environmental Working Group,

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