

June 9, 2021

Steven B. Elmore
Director, Bureau of Drinking Water and Groundwater
Wisconsin Department of Natural Resources
101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921
Steve.Elmore@wisconsin.gov

SENT BY ELECTRONIC MAIL

RE: Citizen Petition to Update the Wisconsin Health Advisory Level for Perfluorobutane sulfonate (PFBS) in Response to the EPA Updated 2021 Toxicity Assessment

Dear Director Elmore,

Approximately two-thirds of the people living in Wisconsin rely on groundwater for their drinking water. Adequate supplies of uncontaminated groundwater are crucial to the health of all residents and their families, particularly expectant mothers and newborns.

PFBS have been detected in the State's groundwater and/or has a reasonable probability of entering groundwater such as presence in soils. The persistence and mobility of PFBS and other PFAS chemicals can lead to large groundwater contaminant plumes extending miles from source areas.

On April 8, 2021 the U.S. Environmental Protection Agency (EPA) released an updated toxicity assessment for perfluorobutane sulfonic acid (PFBS), a member of a larger group of per- and polyfluoroalkyl substances (PFAS). The updated PFBS assessment reflects the "best available science, involved extensive federal, state, and public engagement, and is critical to EPA efforts to help communities impacted by PFAS," officials said.¹



CSWAB is petitioning the State to apply new EPA health guidance to Wisconsin's Groundwater Health Advisory Level (HAL) for a PFAS chemical known as PFBS. If approved, the updated toxicological review is expected to reduce the State's current HAL from 450,000 ng/L to only 3,000 ng/L – making it far more protective of human health and the environment.

¹ <https://www.epa.gov/newsreleases/epa-releases-updated-pfbs-toxicity-assessment-after-rigorous-scientific-review-0>

“EPA, federal agencies, states, tribes, and local communities can use the PFBS toxicity assessment, along with specific exposure and other relevant information, to determine if and when it is necessary to take action to address potential health risks associated with human exposures to PFBS under appropriate regulations and statutes,” EPA emphasized.²

The updated PFBS assessment provides information about adverse effects of the chemical as well as toxicity values and the strengths and limitations about the data used to develop them.³ Animal studies have shown health effects on the thyroid, reproductive organs and tissues, developing fetus, and kidney following oral exposure. Overall, the thyroid and kidney are particularly sensitive to PFBS.

EPA’s revised chronic RfD of 0.0003 mg/kg-day is approximately **70-fold LOWER** than the current RfD in the EPA Regional Screening Level tables. A reference dose is an estimate of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.

The EPA’s revised chronic RfD, when applied to the Wisconsin’s Groundwater Health Advisory Level (HAL) for PFBS is expected to reduce the State’s current HAL from **450,000 ng/L to only 3,000 ng/L**.⁴

This necessary change is significant however, Wisconsin’s updated HAL will still be considerably higher (less protective) than neighboring states.

- In Michigan, the drinking water standard for PFBS of only 420 ng/L.⁵
- In Illinois, the current Health-Based Guidance Level for community water supplies is 2,100 ng/L.⁶
- Minnesota’s state health-based drinking water value is 2,000 ng/L.⁷

Like most states, Wisconsin’s focus has on PFBS contamination associated with the use of aqueous film-forming foams (AFFFs).⁸ AFFF manufactured by 3M between 1989 and 2001, for example, had PFBS concentrations between 160,000,000 ng/L and 380,000,000 ng/L.⁹

However, PFBS-based compounds are also surfactants used in the manufacture of paints, cleaning agents, and water- and stain-repellent products and coatings. Various sources report detection or occurrence in environmental media and consumer products, including drinking water, ambient water, dust, carpeting and carpet cleaners, floor wax, and food packaging.¹⁰

² <https://www.epa.gov/newsreleases/epa-releases-updated-pfbs-toxicity-assessment-after-rigorous-scientific-review-0>

³ <https://www.epa.gov/newsreleases/epa-releases-updated-pfbs-toxicity-assessment-after-rigorous-scientific-review-0>

⁴ ng/L = nanograms per Liter = parts per trillion (ppt)

⁵ https://www.michigan.gov/pfasresponse/0,9038,7-365-86513_96296-535603--,00.html

⁶ <https://www2.illinois.gov/epa/topics/water-quality/pfas/Pages/pfas-healthadvisory.aspx>

⁷ <https://www.pca.state.mn.us/waste/what-minnesota-doing-about-pfas>

⁸ <https://apps.dtic.mil/dtic/tr/fulltext/u2/1044126.pdf>

⁹ https://www.michigan.gov/documents/pfasresponse/Perfluorobutane_Sulfonic_Acid_PFBS_Chemistry_Production_Uses_and_Environmental_Fate_704238_7.pdf (Chapter 3.1.13)

¹⁰ file:///C:/Users/info/AppData/Local/Temp/PERFLUOROBUTANE_SULFONIC_ACID_FINAL_APR2021-1.PDF (Chapter 1.2 Occurrence)

As citizen petitioners, we sought to accurately document the occurrence of PFBS in Wisconsin's environment however multiple WDNR staff have explained that PFBS and other PFAS are not currently recorded in existing searchable statewide databases. However, we were able to confirm that low levels of PFBS have been detected in groundwater in Marinette County, City of Madison, Town of Newton and City of Rhinelander.

Public access to PFBS data has been further impeded by lawsuits filed against the State. On March 29, 2021, Wisconsin Manufacturers and Commerce (WMC) sued the Wisconsin Department of Natural Resources and related entities to block the DNR's currently applied program of collecting and analyzing wastewater effluent samples from industrial facilities and municipal publicly owned treatment works (POTWs) for PFAS.¹¹

For these reasons, we are presenting examples from neighboring states.

In April 2018, EPA Region 5 tested discharged process wastewater from 11 chromium electroplater facilities here in the Midwest (Ohio and Illinois). **PFBS was detected in wastewater from 9 of the 11 facilities tested.** Detected concentrations of PFBS ranged from 75.5 to 41,000 ng/L.¹² There are approximately 22 Chromium Plating Suppliers in Wisconsin.¹³

In Michigan, an April 2021 evaluation of PFAS in influent, effluent and residuals of Wastewater Treatment Plants (WWTPs) noted that **PFBS was detected in 95%** of the facilities tested.¹⁴

PFBS in soil also poses a risk to Wisconsin's groundwater. The May 2021 EPA Regional generic risk-based Soil Screening Level (SSL) for PFBS to protect groundwater is 1.9E-03 or 0.0019 mg/kg.¹⁵ By comparison, subsurface soil concentrations at Former Fire Training Area at Wisconsin's Volk Field Air National Guard Base have been detected at 5.2 ug/kg (0.0052 mg/kg).¹⁶

PFBS Manufacturing and Use.....	
3.1 PFBS Manufacturing and Use Before 2002.....	
3.1.1 Impregnation and Surface Protection	
3.1.2 Impregnation of Packaging	
3.1.3 Cleaning Agents, Waxes and Polishes	
3.1.4 Surface Coating, Paint, and Varnish	
3.1.5 Oil Production and Mining.....	
3.1.6 Photographic Industry	
3.1.7 Electronics Industry.....	
3.1.8 Semiconductor Industry	
3.1.9 Aviation Hydraulic Fluids.....	
3.1.10 Insecticides and Pesticides.....	
3.1.11 Medical Devices.....	
3.1.12 Metal plating.....	
3.1.13 Fire- Fighting Foams.....	
3.2 PFBS Emissions Before 2002.....	
3.2.1 Surfactants for Inks, Paints, and Waxes	
3.2.2 Flame Retardants for Polycarbonate	
3.2.3 Oil, Water, and Stain Repellent Fabric Protectants..	
3.2.4 Repellent Agents for Porous Hard Surfaces	
3.2.5 Metal Plating	
3.2.6 Surfactants and Solder Paste for Electronics	
3.2.7 Pesticides.....	
3.2.8 Other Minor Applications.....	
3.3 Actual PFBS Levels in Products	
Source:	
	https://www.michigan.gov/documents/pfasresponse/Perfluorobutane_Sulfonic_Acid_PFBS_Chemistry_Production_Uses_and_Environmental_Fate_704238_7.pdf

¹¹ <https://www.natlawreview.com/article/wmc-sues-dnr-again-and-secures-tro-effort-to-block-pfas-sampling-program>

¹² https://www.in.gov/idem/ctap/files/plating_chromium_pfos_study.pdf (Figure 3 on page 10 of 31)

¹³ <https://www.thomasnet.com/nsearch.html?cov=W1&heading=61520805&loc=W1>

¹⁴ https://www.michigan.gov/documents/egle/wrd-pfas-initiatives-statewide-full-report_722902_7.pdf

¹⁵ <https://semspub.epa.gov/work/HQ/400774.pdf> (page 7 of 10)

¹⁶ file:///C:/Users/info/AppData/Local/Temp/20180126_351_SF_SI_PFAS.pdf (Table 5 AFFF Area 1 (Former Fire Training Area) Subsurface Soil Detections)

At the La Crosse Well #23 & #24 investigation site, PFBS soil concentrations were detected at 18 ug/kg (0.018 mg/kg).^{17,18} Again, exceeding the SSL values for protection of groundwater.

And finally, in terms of timeline, we view the immediacy of the requested HAL update as vital to protecting public health.



The City of La Crosse's Well #23 is located just east of the La Crosse Airport. Contaminated groundwater containing PFBS and other PFAS was piped and discharged directly into the Black River under a permit issued by DNR in June 2017. Outfall photographed in May 2019.

Unfortunately, we see no evidence that the necessary majority of the State legislature is committed to actively supporting and facilitating regulation of PFAS in Wisconsin now or in the foreseeable future. In the meantime, without this consequential HAL update, the public will remain unaware of the implications of the recent EPA assessment.

Furthermore, unless and until state regulations are in place, HALs remain critical health-based guideposts for DNR decisions such as who gets bottled water, whose drinking water well should be tested, which remedies are the most effective, what site-specific cleanup goals are appropriate, and how to best mitigate and prevent exposures.

Thank you for your consideration of our petition. Please feel free to call me at (608)643-3124 if I may answer any questions or provide further clarification.

Sincerely,

Laura Olah
Executive Director

¹⁷ file:///C:/Users/info/AppData/Local/Temp/20201007_43_Status_Update_SIR.pdf (page 7 of 123)

¹⁸ file:///C:/Users/info/AppData/Local/Temp/20190621_99_%20Pump_Test_Memo_June_2019.pdf