

Biosolids and PFAS: Quick Facts for Landowners/Farmers

What are Biosolids? Biosolids are the treated materials produced during the processing of wastewater at a wastewater treatment plant (WWTP) (also known as a water resource recovery facility). Biosolids are rich in nutrients and organic matter and may be used as fertilizer or soil amendments (a beneficial use). A biosolids' quality and their proper use are regulated by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the U.S. Environmental Protection Agency (USEPA). EGLE and the USEPA require biosolids to undergo a treatment process and be tested for certain pollutants to protect human health and the environment. Those processes refine the biosolids so that they can be applied at agronomic rates, providing a stable and valuable source of plant nutrients and soil structural enhancements.



What are PFAS and how do they get in wastewater? Per- and Polyfluoroalkyl substances (PFAS) are a large group of chemicals used for decades in industrial, commercial, and domestic settings and are found worldwide. Typical materials or processes that use or contain PFAS include firefighting foam, chrome plating, cookware coatings, waterproofing on clothing and carpet, and even food wrappers. Some PFAS, including Perfluorooctane Sulfonate (PFOS), which are most commonly found in biosolids, have been phased out of production in the United States and are no longer approved for use. Even though they have not been used for years, their legacy remains.

WWTPs do not generate PFAS chemicals, though they may receive discharges from certain industrial or commercial sources who have used PFAS. As a result, PFAS may be found in treated wastewater and biosolids. Some of those PFAS are known to travel through water, can linger in the environment, and have the potential to impact the soil, water and crops. PFAS has been found to build up in the tissue of fish and deer in Michigan and in some areas led to consumption advisories. Studies by EGLE and USEPA are underway to determine the impact of PFAS on animals, animal products and crops. Some studies have shown that certain PFAS may harm human health, therefore, it is important to minimize exposure to all sources of PFAS in drinking water and food. For more information and referencing, please go to the website listed below.

Michigan's response to reducing PFAS in biosolids. Currently, USEPA is working to complete a risk-based evaluation of PFAS in biosolids. In the interim, EGLE's strategy is a deliberative, disciplined approach which focuses on identifying and reducing significant sources of PFAS entering WWTPs and preventing industrially impacted biosolids from being land applied. These efforts have helped WWTPs reduce PFAS concentrations in their biosolids.

The WWTP you are receiving biosolids from is:

You can reach the facility at:

Its most recent PFOS testing result is:

ppb on

Presently EGLE's threshold concentration for PFOS in biosolids to be considered industrially impacted is 150 ppb.

In 2018, EGLE launched the Industrial Pretreatment Program (IPP) PFAS Initiative which has been successful in working with WWTPs to identify, reduce, and monitor sources of PFOS. Sixty-nine percent (69 percent) of the 95 WWTPs tested at the beginning of this initiative have already met water quality standards. Since the initial work in 2018, through aggressive source reduction efforts, the remaining facilities have continued their effective PFOS concentration reductions in treated wastewater by 49 to 99 percent compared to pre-2018 levels. For more information and referencing, please go to the website listed below.

Additionally, EGLE has established a protocol for WWTPs that may have biosolids impacted by PFAS industrial discharges. This includes a threshold concentration level (maximum of 150 parts per billion [ppb] for PFOS in biosolids) and monitoring requirements. Any WWTP that exceeds the threshold will not be allowed to land apply biosolids until they establish long-term measures for pre-treatment, eliminate their industrial sources of PFOS, and demonstrate that PFOS concentrations in their biosolids are consistently testing below the threshold concentration.



If you, your neighbors, or your customers have questions, you can find more information on PFAS in Biosolids by visiting the Michigan PFAS Action Response Team PFAS Land Application Workgroup web page [Michigan.gov/PFASLandApplication](https://www.michigan.gov/PFASLandApplication). You may also reach out to the staff people listed on the [Statewide Biosolids and PFAS Contact map](https://www.michigan.gov/documents/egle/egle-mdard-biosolids-pfas-staff_720327_7.pdf) located at the following web page https://www.michigan.gov/documents/egle/egle-mdard-biosolids-pfas-staff_720327_7.pdf



Michigan Biosolids Team



For information or assistance on this publication, please contact the Biosolids Program through the EGLE Environmental Assistance Center at 800-662-9278. This publication is available in alternative formats upon request.

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