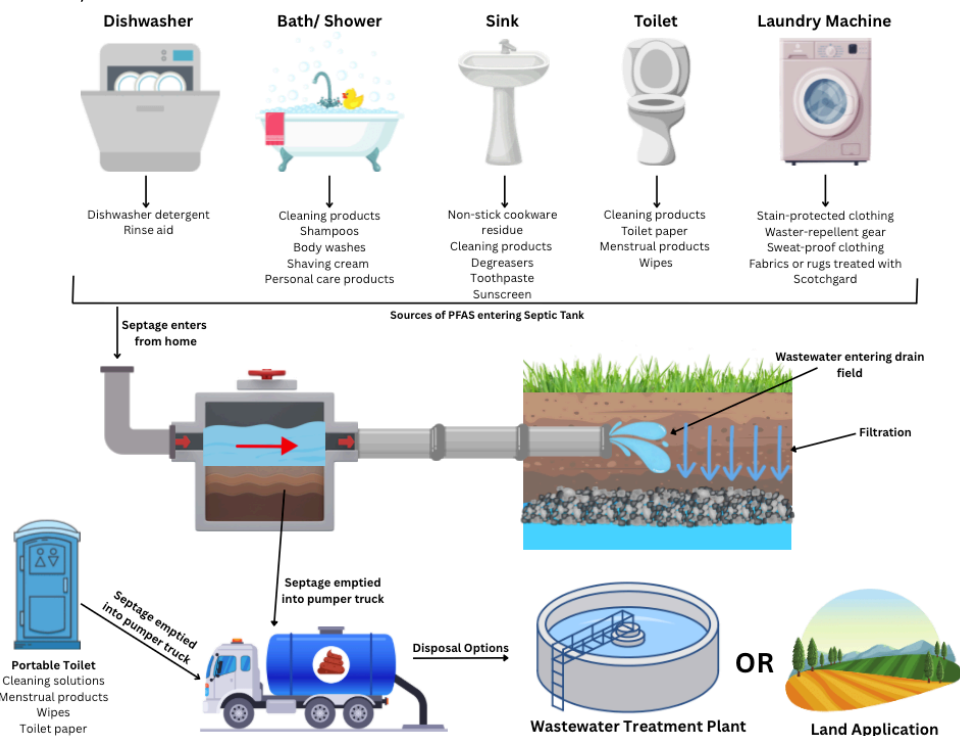


PFAS AND SEPTAGE

WHAT IS SEPTAGE?

Septage is the general term for the waste and solids that accumulate in a septic tank and other on-site sewage treatment systems. A septic tank contains the solid waste while the liquids flow into a drain field. In some areas of the country where soil conditions do not allow for a drain field, or as a temporary solution, a holding tank is used. A holding tank has no outlet and stores raw wastewater until a pumper removes it. In Michigan, septage can be land applied once the site is authorized by EGLE. In permitting a site for land application, the landowner and hauler must follow rules outlined in Michigan Legislature Act 451 of 1994 Part 117. Raw septage is not tested by EGLE for environmental contaminants.



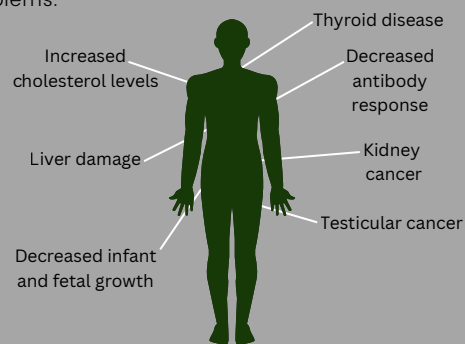
Farmers are not required to test soils for environmental contaminants before or after septage application because there are no guidelines or thresholds to regulate by. The scientific knowledge of how environmental contaminants, including PFAS, move from soil to water and/or into plants is limited. We know that septage will contain traces of PFAS because of the use of PFAS containing products in our household environments. Enhancements to allow septic systems to treat PFAS and other emerging contaminants are being researched. At this time, there are no practical solutions for removing PFAS from septage or from farm soil.

The most effective way to reduce PFAS from wastewater entering our ground water, surface water, or crops is to eliminate their usage whenever possible. Proper disposal of items is crucial to avoid contamination of the water supply. Avoid pouring hazardous materials like medication, paint, motor oil, and pesticides down the drain. Do not flush items such as paper towels, feminine hygiene products and flushable wipes as they often contain PFAS and can also clog pipes.

Because labeling of PFAS is not required, it is hard to know if the products you are using contain PFAS. Look for safer alternatives from companies that have been certified by credible independent organizations to be PFAS-free.

WHAT ARE PFAS?

PFAS stands for per- and polyfluoroalkyl substances, a large group of over 12,000 different human-made chemicals with properties of being resistant to oil, water and stains. PFAS are commonly used in a variety of products like makeup, carpet, clothing, food packaging, firefighting foam, non-stick cookware, etc. These compounds do not naturally degrade in the environment and bioaccumulate in plants, water, soil, and animals, including humans. High levels of exposure are associated with several different health problems.



LAND APPLICATION

Farmers use septage because it provides a cost-effective source of fertilizer for growing crops, increases soil organic matter, and supports local economies by recycling nutrients. Considerations for site permitting include factors to ensure public safety and ground and surface water protection, including:

- Land topography (slope)
- Water table depth
- Application rate based on soil nutrients and crop removal
- Setbacks from surface water, wells, roads, property lines, homes, and commercial buildings
- Application method (inject or surface applied)
- Treatment to reduce pathogens
- Vegetation to be grown on the land



FOR MORE INFORMATION



Contact Faith Cullens-Nobis (cullensf@msu.edu) or Katie King (kingka22@msu.edu)

OR VISIT

[HTTPS://WWW.CANR.MSU.EDU/PFAS/](https://www.canr.msu.edu/pfas/)