

Biosolids Biennial Report N^o 8 (Reporting Period 2018-2019)

Summary

The Clean Water Act (CWA) requires EPA to review federal biosolids (sewage sludge) standards every two years to identify additional toxic pollutants that occur in biosolids and then set regulations for those pollutants if sufficient scientific evidence shows they may harm human health or the environment. The biennial review process is intended to fulfil the CWA requirement to identify additional pollutants that occur in biosolids. EPA has now published a report on the 2018-2019 review period.

Background

EPA collected and reviewed publicly available information for (1) pollutants in biosolids that were newly identified during the literature search timeframe (2018-2019) for Biennial Report N^o8; and (2) pollutants in biosolids that were previously identified in EPA national sewage sludge surveys conducted in 1988, 2001, and 2009 and/or in previous biennial reviews. Information was collected on the occurrence, fate and transport of these pollutants in the environment and their effects on human health and ecological receptors. The types of information collected are needed to conduct risk assessments.

Results of the 2018-2019 Biennial Review

As a result of the literature search, EPA found 18 new articles that provide relevant data on chemical pollutants that may occur in U.S. biosolids. The articles identified 116 new chemicals in biosolids: 50 polychlorinated biphenyls (PCBs) (39 congeners, 10 homologs and total PCBs); four pesticides; 19 flame retardants; eight perfluoroalkyl substances (PFAS);

three antibiotics; one metal; two inorganics; and 29 other organics. The articles also identified new data for 48 chemicals that were previously identified in biosolids. Concentration data for biosolids were found for 61 of the 116 new chemicals and for 34 chemicals identified in previous biennial reviews.

EPA searched additional data sources for data needed for risk assessment. Human health toxicity values were found in multiple sources for four of the new chemicals and 112 previously identified chemicals. Ecological toxicity data were found for 63 newly identified chemicals and 71 previously identified chemicals in the ECOTOX database. Additional ecological toxicity data were found for 99 of the newly identified chemicals in the Estimation Programs Interface (EPI) Suite™ (U.S. EPA 2017). Physical-chemical properties were identified for 102 new chemicals and five previously identified chemicals. Bioconcentration or bioaccumulation factors were identified for one new chemical in the literature; for 99 new chemicals in EPI Suite; and for 40 new chemicals in peer-reviewed databases maintained by Arnot and Gobas (2006), Environment and Climate Change Canada (2006), and Oak Ridge National Laboratory (2020).

Two articles identified five new microbial pollutants in biosolids and data for five previously identified microbial pollutants found in biosolids.

Where can I find more information?

To view Biennial Report N^o 8 for the reporting period 2018-2019 and get more information about EPA's Biosolids Program, visit EPA's Biosolids website: <https://www.epa.gov/biosolids>.