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Per- and polyfluoroalkyl substances (PFASs) are widely used in industry (packaging, textile, electroplating, metallurgical or plastic industries) because of their valuable properties (low surface tension, nonflammability, hydrophobicity, oleophobicity, or good thermal conductivity).[1] In contrast to properties suitable for industry, PFASs have several adverse health effects (e.g. kidney cancer, sperm quality, or cholesterol level),[2] and their occurrence in nature is not desirable. The extensive use of PFASs is later reflected in their content in wastewater and subsequently in sewage sludge.[3] Thus, agricultural sludge use should be replaced by thermal sludge treatment. Mono-incineration is a well-known technology, in contrast to sludge pyrolysis, which still has some research gaps, especially in the field of the behaviour of organic pollutants, including PFASs.[4] Our work aimed to describe PFASs behaviour at different pyrolysis temperatures (200 to 700 °C). We analysed 37 PFAS in sewage sludge samples and pyrolysis products. The temperature at which PFASs were removed from the sewage sludge at more than 99.0% was 400 °C, and at 600 °C, removal was more than 99.9%. As a result, it is recommended for commercial sludge pyrolysis units (larger volume, lower material homogeneity) that the process temperature be not lower than 600 °C. This recommendation is supported and demonstrated by the analyses of samples from the Bohuslavice Trutnov WWTP (CZE), where the sludge pyrolysis unit is in operation.

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