

## Development of a monitoring strategy for the elimination of organic micropollutants from wastewater with ozone and activated carbon

In Baden-Württemberg, there is still limited experience regarding the treatment of wastewater with ozone for the elimination of micropollutants. However, it is known that not all wastewater is equally suitable for treatment with ozone, as undesirable transformation products can arise depending on the composition of the wastewater. As part of the project "Development of a monitoring strategy for the elimination of organic micropollutants from wastewater with ozone and activated carbon", a laboratory-scale plant was designed similar to the Swiss ozone test procedure ("Clarification of process suitability for ozonation") in order to be able to carry out preliminary investigations into the suitability of various wastewaters for ozonation. Furthermore, a methodology was developed on a laboratory scale to investigate the use of the combination of ozone and activated carbon (PAC and GAC). The investigations were carried out with wastewater from the teaching and research wastewater treatment plant (LFKW) of the University of Stuttgart, as well as with wastewater from the Donaueschingen wastewater treatment plant, in order to ensure the comparability of the methodology.

To validate the results of the laboratory ozone experiments, a semi-industrial ozone plant is currently being operated at the research wastewater treatment plant at ISWA. The purification performance of the ozone/GAC combination process is to be investigated in continuous operation and possible post-treatment processes are to be tested. The first tests are being carried out with wastewater from the LFKW at the University of Stuttgart. In order to test the transferability of the results, the system is also to be operated at the Donaueschingen wastewater treatment plant in the future. The procurement of the two test plants will enable extensive preliminary investigations to be carried out in Baden-Württemberg for wastewater treatment plants that are considering the construction of an ozone stage for the targeted elimination of organic micropollutants.

*Funding source:* [Ministerium für Umwelt, Klima und Energiewirtschaft Baden-Württemberg](#)

*Head of project:* [Kompetenzzentrum Spurenstoffe Baden-Württemberg](#)

*Contact:* [Katrin Merkler, M.Sc.](#) [katrin.merkler@koms-bw.de](mailto:katrin.merkler@koms-bw.de)

*Duration:* [07/2018–01/2023](#)