



# APPLICATION OF MODIFIED MAGNETIC SORBENTS FOR REMOVAL OF ORGANIC POLLUTANTS FROM WATER

## Aim of developed technology

Problem: Organic pollutants in the aquatic environment disrupt ecosystems, have an impact on the health of organisms and, as a result, cause economic losses.

Solution: A magnetic sorbent based on  $\text{Fe}_3\text{O}_4$  microparticles was developed, subsequently modified by silanization and a  $\text{C}_{18}$  functional group. This sorbent has the ability to efficiently remove non-polar substances from water. The prepared sorbents were tested for BTEX and PAH removal efficiency. Up to 99% of xylenes, 95% of ethylbenzene, and more than 90% of polyaromatic hydrocarbons can be removed.

## Potential adpoters of technology

This technology is suitable for removing nonpolar pollutants from technological flows or at the outlet of sewage treatment plants.

## Advantages of technology

Applied sorbent with extracted pollutants can be separated from water by applying magnetic field and regenerated.

The technology was developed in cooperation with Mikrochem LKT spol s.r.o. Třeboň.

