ANOXKALDNES TracerTM THF (Tetrahydrofuran)



Removal of THF with AnoxKaldnes[™] Moving Bed Biofilm Reactors (MBBRs)

Industrial effluents can often contain special and complex compounds. Some of these compounds are difficult to remove and can also be harmful to the environment and living organisms if left untreated. One example of such compounds is Tetrahydrofuran (THF), also known as oxolane. THF, with the chemical formula C4H8O, is an organic volatile heterocyclic compound that is highly soluble and colorless.

Water contaminated with THF

THF is commonly used as a basic feedstock for chemical syntheses. In addition, THF is used as a solvent for lacquers and printing inks, certain cements, pharmaceuticals, vinyl films, and adhesives. In the natural world, THF can only be found in one species of evergreen trees and in coffee; therefore, the largest contribution to THF pollution in the environment is from man-made sources, such as industrial wastewaters.

Why is THF of concern?

Globally, the industrial consumption of THF has increased which has led to an increased discharge of THF contaminated industrial wastewaters.THF can affect the central nervous system of human beings, and it exhibits adverse acute toxicity to microorganisms.

THF also appears to have carcinogenic effects although these effects are controversial. In biological wastewater treatment systems, like activated sludge, THF may decrease biological activity and lead to decreased treatment performance.



Biological removal of THF

THF can be biologically degraded by bacteria by using biofilm MBBR technologies. THF biodegradability can be achieved even when THF is the only carbon source available.

Industrial applications for Tracer[™] THF MBBRs



Using AnoxKaldnes technologies to remove THF

AnoxKaldnes with other Veolia Water Technologies subsidiaries have demonstrated the technical feasibility of using Tracer™ THF MBBRs for the treatment of THF-contaminated effluents. Tracer™ THF MBBRs have the potential to be incorporated as single process solutions or in staged biological treatment processes depending on the treatment requirements and contaminants present.

Feel free to contact us for more information about how AnoxKaldnes Tracer[™] technology creates new possibilities in biologically removing harmful compounds in industrial wastewater.

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