

EIC-1 Bioprocess

Biodegradation of toxic pollutants in chemical, pharmaceutical and automobile industry wastewater

MADEP solution

MADEP s.a. has isolated strains of bacteria that degrade and use as carbon sources :

- Esters : Methyl methacrylate and isopropyl butyrate.
- Ethers : MTBE, dibenzylether, methoxymethylbenzene
- Hydrocarbons : Benzene, nitrobenzene, chlorobenzen, hexane, heavy oils,
- Organic solvents : DMSO, THF, cyclopropane, cetones (methylisobuthylcetone), toluene, trichloroéthylène, perchloroethylene, benzyldehyde, benzonitrile, N,N-dimethylformamide.
- Cresols : Several formulations.
- Alcools : Benzyl alcool, ethanol, methanol.
- Amines : Heptanamine.
- Phenols : Phenols, dinitrophenol, chlorophenols.

The selected strains are cultivated on-site and added to aerated reactors containing the toxic waste compounds.

Results

- Initial TOC concentration : 15'000-20'000 ppm
- Degradation rate : 0,5 à 1,5 kg TOC/(m³ ractor * day) or 500-1500 ppm TOC/(liter reactor * day)
- Final TOC reduction : 88 to 92 %

