Catalytic wet peroxide oxidation of organic contaminants with TiO$_2$ and Au/TiO$_2$ catalysts in dark

The heterogeneous catalytic Fenton wet peroxide oxidation of phenol was compared with Fe/SiO$_2$, Au/Hydroxyapatite and Au/TiO$_2$ catalysts. The only one leach proof system at conditions required for efficient TOC removal is Au deposited on titania. At proper operation conditions TiO$_2$ and Au/TiO$_2$ catalysts allow reaching > 95% mineralization of phenol and stable operation. The Au/TiO$_2$ is efficient in decontamination of industrial wastewater containing halogenated organics decreasing the TOC content and increasing the biodegradability of remained organics.

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1 PM GCIS W301

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