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Treatment of toxic pollutants of purified terephthalic acid waste water: A review

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Abbreviations

| | | | |
|--|--|--|--|
| AFBR - Anaerobic fluidized bed reactor | CTAB - Cetal trimethyl ammonium montmorillonite | HRT - Hydraulic retention time | PET - Polyethylene terephthalate |
| AFFFBR - Anaerobic fixed film fixed bed reactor | DC - Direct current | IPA - Iso-phthalic acid | PDDA - Poly-diallyl-dimethyl-ammonium |
| AOP - Advance oxidation processes | DMT - Dimethyl terephthalate | LDH - Layered double hydroxide | PTA - Purified terephthalic acid |
| BA - Benzoic acid | EC - Electrocoagulation | MFC - Microbial fuel cell | SA - Surface area |
| CCR - Cross linked chitosen resin | EF - Electrofenton | ODTMA-B - Organ-bentonite | SL - Service life |
| CD - Current density | Fe, Al - Iron, Aluminium | hexadecyltrimethyle ammonium bromide | TA - Terephthalic acid |
| COD - Chemical oxygen demand | GIA - Global industrial analysis | OTMAC - Octadecyl trimethyl ammonium activated carbon | TDS - Total dissolve solids |
| CPMAI - Chemical and petrochemical association of India | HDTMA-B - Octadecyltrimethyle ammonium bromide | PA - Phthalic acid | TFFR - Tubular fixed film reactor |
| CTA - Crude terephthalic acid | HMBR - Hybrid membrane bioreactor | PAC - Ploy-aluminum chloride | VLR - Volumetric loading rate |
| | | PBT - Poly-butyl terephthalate | |

Abstract

This study provides the overview of various biological and physiochemical technologies used for treatment of purified terephthalic acid (PTA) wastewater. Electro coagulation (EC) technology is effective and mostly used technology in the area of wastewater treatment therefore this study also provide some fundamental of electrocoagulation (EC) process i.e. scope, process steps, reaction mechanisms, design parameters, operating parameters etc. It was found that Terephthalic acid (TA), benzoic acid (BA) and p-toullic acid (p-TA) are the major pollutants of PTA wastewater and contributed higher chemical oxygen demand (COD). Therefore, various studies reported degradation of these pollutants using synthetic and industrial wastewater. This study provides the review of these pollutants whether they were

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