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## Identification and treatment of bisphenol A (BPA) in wastewater industrial using advanced oxidative processes

Renata Vitória de Lima Sales, Júlia Barbosa de Almeida Salgado, Léa Elias Mendes Carneiro Zaidan, Daniella Carla Napoleão, Danielle Pires de Souza, Mohand Benachour and Valdinete Lins da Silva  
Universidade Federal de Pernambuco, Brazil

Bisphenol A (BPA) is a monomer in which its manufacture is primarily directed to the manufacture of polycarbonate plastic and the synthesis of epoxy resin being used in coatings for cans for beverages and foods, packaging for pharmaceuticals, dental adhesives and sealants, electronics, automotive equipment, plastic bottles and bottle. Important environmental pollutants are considered, because they act negatively in the hormonal system of animals and humans, belonging to the group of endocrine disruptors. The presence of these compounds with estrogenic activity in water is by contamination of water sources by effluent discharge raw or treated, since the conventional water treatment and sewage are not able to remove these organic pollutants efficiently. With this a treatment technique has proven attractive in recent years is the Advanced oxidation process (AOP), in which there is generation of free radical hydroxyl and highly oxidant, which reacts with most organic compounds generating CO<sub>2</sub> and H<sub>2</sub>O. This study aims to assess, quantify and treat industrial effluent samples containing BPA. Quantification of BFA was made by High Performance Liquid Chromatography (HPLC) whose validity was proven with a correlation coefficient R<sup>2</sup> satisfactory equal to 0.9984, respecting standards required by the relevant authorities (ANVISA and INMETRO). For identification and quantification of BPA, the real effluent samples were submitted to the Liquid-Liquid Extraction process (LLE), and then concentrated for analysis by HPLC. This was a POA (Photo-Fenton like) in the sample with bench reactor with UV-C radiation with obtained degradation rate 97.13%, using UV-C light.

[renatavsales@gmail.com](mailto:renatavsales@gmail.com)

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