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Abstract

There is provided a method and system for treating and decomposing organic compounds, in particular, organic suspended solids and organic nitrogen compounds contained in waste water to form inorganic compounds such as carbon dioxide and water without generating harmful and bad smelling byproducts. Organic compounds contained in waste water are electrochemically detoxified using diamond electrodes at least as an anode. In this case, the current density is 0.5 to 10 A/cm² and the liquid flow linear velocity is 200 m/hr or more. A pH value of the waste water may be alkaline. With regard to organic nitrogen compounds, it is preferable to conduct the first step treatment by electrolytic decomposition using diamond electrodes as both of a cathode and an anode in the first step electrolytic reaction tank 1 and then the second step treatment by electrolytic decomposition using the diamond electrode as a cathode and a metal electrode as an anode in the second step electrolytic reaction tank 2.