

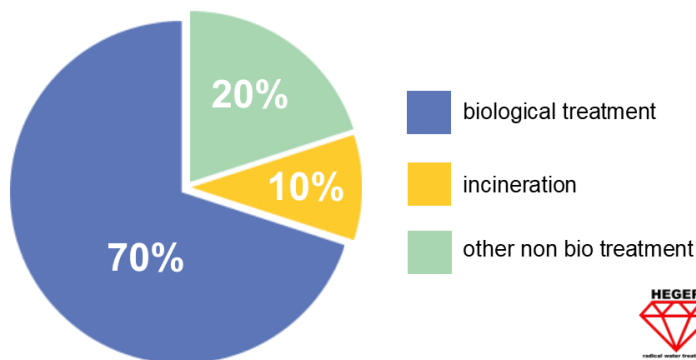
Waste Water Oxidation

The Product

Electrolytic Oxidation Systems for Industrial Waste Water Treatment

The Application

Industrial production processes produce different effluents that are either treated in house Waste Water Treatment plants (WWTP) or disposed of externally. In most cases Chemical Oxygen Demand (COD) plays an essential role. Costs for waste water discharge are often based on COD value, fish toxicity or the content of poorly degradable substances in general. Wastewater with high pollution loads or hard to degrade substances are often sent to incineration. Disposal costs can exceed \$ 200 - \$ 250/ton.



Water Treatment / Disposal Applications

The Process

Hydroxyl radicals (OH) are strong oxidants, they are used to treat dissolved pollutants in processes known as advanced oxidation processes (AOPs). These water treatment techniques can eliminate almost all types of toxic and hazardous dissolved organic compounds in an aqueous phase via oxidation. Heger Diamond's novel Water Treatment Process of Electrolytic Oxidation helps combat high disposal costs. Compared with incineration or other treatment using chemical/physical processes. Electrolytic Oxidation with BDD electrodes have already reduced operating costs by up to 50% in many cases.

Treating effluent with BDD Electrodes leads to increased bio availability and better discharge values of the waste water. Discharge values and bio- availability of substances improve, molecular components can possibly be recycled. Process leftovers are water, CO₂ and salts.

The Advantages

- ❖ Complete oxidation of the wastewater
- ❖ No use of hazardous chemicals (H₂O₂)
- ❖ Lower COD / TOC
- ❖ Excellent energy efficiency
- ❖ Low maintenance, no loss of performance
- ❖ Easy installation, easy control
- ❖ Integration into existing technologies

The Solution

Electrolytic Waste Water Oxidation through the use of BDD (boron doped diamond electrodes) generates highly reactive hydroxyl radicals from water molecules. The picture below shows a typical BDD system for Water Treatment. The water flows through the BDD electrode system (full or partial flow) and the oxidizing agents form directly in the water which ensures full contact.

