

# Advanced Oxidation Process (AOP)

## Product Application

Advanced Oxidation Process (AOP) is a chemical treatment procedure designed to remove organic and some inorganic material from water and wastewater by oxidation reactions. It is typically used for wastewater treatment. AOP usually refers specifically to chemical that employ ozone (O<sub>3</sub>), hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), with or without UV light.

**AOP is widely used in industrial wastewater treatment application:**

- Chemical treatment for sewage water
- Chemical treatment for COD & BOD for industrial wastewater, specially the non-biodegradable type
- Chemical treatment for pharmaceutical wastewater
- Chemical treatment for the Food and Beverage Industry
- Treatment of Hazardous wastewater

## Process Description

AOPs depends on highly reactive oxidizing reactivities. The reactivities are the strongest oxidants and can virtually oxidize any compound present in the water matrix, it reacts unselectively, and contaminants will be quickly fragmented and converted into small inorganic molecules. In general, AOPs can reduce the concentration of contaminants from several-hundred ppm to less than 5 ppb and therefore significantly bring COD and TOC down. The AOP is useful for cleaning biologically toxic or non-degradable materials such as aromatics, pesticides, petroleum constituents, and volatile organic compounds in wastewater.

## Product Benefits:

- Effectively eliminate organic compounds from wastewater
- Transfer pollutants into another safe phase
- Heavy metals can also be removed
- Disinfection can also be achieved
- Does not introduce any new hazardous substances into the water
- Some AOP chemicals are environmentally friendly

## Service and Features:

- Supply as part of integrated system to achieve the performance guarantee values
- Provide & apply asuitable chemical program to meet the performance criteria required
- Retrofit for existing biological system to increase treatment efficiency
- Installation & supervision commissioning
- Operation & maintenance services

