

## Oxygen-based wastewater treatment systems

Oxygen-based technology is gaining popularity for purifying and neutralizing wastewater overloaded with organic contaminants. Major industrial gas suppliers are augmenting their existing product lines with new and improved technology and services for wastewater treatment.

Praxair has teamed up with Aqua-Aerobic Systems Inc. to produce and market Praxair's In-Situ Oxygenation (I-SO) aerator in the United States. The I-SO system dissolves oxygen into an existing open tank wastewater treatment system. It is particularly effective for facilitating VOC emissions reduction, increasing biotreatment capacity and lowering power consumption.

BOC has formed an alliance with Advanced Biological Services (ABS). ABS will supply micro-organisms for a biomass vitality programme that BOC will introduce in the next 12-18 months. By optimizing the amount of oxygen and microbes in an aerobic system, operators can save up to US\$300,000 per year in treatment costs for polymers, chlorine, dewatering and sludge disposal.

Air Products and Chemicals is marketing the Oxy-Dep system for new, compact treatment plants or even as a retrofit to existing air-based plants that have become overloaded. This system can also be utilized to reduce odours, emissions of VOCs and foaming. In addition to removal of biological oxygen demand (BOD), Oxy-Dep is also effective for high concentration ammonia removal and sludge digestion.

Air Liquide is offering two systems. One is the Ventoxal system, optimized for basins about 12 feet or deeper. Ventoxal utilizes gas-liquid contractors and stirring nozzles situated on the basin's bottom to diffuse oxygen throughout the basin, thereby maximizing oxygen transfer. The Turboxal system, which floats on top of the basin, is suitable for shallow basins. Computer modelling can be used with either of these systems to determine the number and location of systems for optimal oxygen dissolution. *Contact: Website: [www.airliquide.com](http://www.airliquide.com); Or Website: [www.boc.com](http://www.boc.com); Or Website: [www.airproducts.com](http://www.airproducts.com); Or Website: [www.praxair.com](http://www.praxair.com).*

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