

New Water Treatment Technology for Nitrate Removal and Destruction - Yields Harmless Nitrogen Gas, with Key Economic and Environmental Benefits

The latest in water treatment technology, “The ELIMINATE™ System, for nitrate removal and destruction converts nitrate to harmless nitrogen gas, thereby eliminating potential waste brine disposal requirements.

Engineered and distributed exclusively by Hungerford & Terry, Inc., based in Clayton, New Jersey, the ELIMINATE System was developed by Ionex Ltd., a British technology firm. Unlike other conventional nitrate reduction water treatment systems out on the market, the recovery and reuse of regenerate brine is an important step in reducing waste.

This new type of system meets the ever-stringent environmental requirements mandated by certain states, local and regional municipalities concerning nitrate contamination in ground and surface water.

The ELIMINATE system also offers continual monetary savings over an established period of time, helping governmental, institutional, municipal corporations or water companies preserve or increase their bottom line.

According to Alan A. Davis, President Hungerford & Terry, “We’re truly excited by this new nitrate elimination process because it offers our clients more than one choice. The ELIMINATE system, which has no waste disposal whatsoever, is perfect for areas where strict environmental regulations are in effect (or pending). Yet, our standard line of nitrate removal countercurrent and cocurrent nitrate exchange systems also offer a multitude of benefits and are engineered for municipalities and areas where the pending or current restrictions on disposal of liquid brine waste are more lenient.” Davis concludes: “The new ELIMINATE system and our countercurrent and cocurrent technologies represent more than four decades of research and development. They are critical for today’s engineered water treatment that improves the overall water supply in the U.S. and around the world.”

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New Water Treatment Technology for Nitrate, cont'd

The contamination by nitrate of groundwater and, in some instances, surface water is caused by fertilizer run-off in agricultural areas, septic tank field percolation and wasteland disposal. In high amounts of concentration, nitrates have been confirmed to pose severe health risks to people, especially infants, and livestock.

The Hungerford & Terry's team of engineers has designed and tested two types of systems to meet nitrate removal needs. The countercurrent removal system is for the majority of facilities because it is the most efficient in design and operation. However, if a small system is adequate and capital costs are an important concern, then the cocurrent system may be the better alternative.

Hungerford & Terry's standard countercurrent and cocurrent systems reduce nitrate levels in water through a chloride cycle anion exchange. The process works as such: The nitrates, alkalinity and sulfates are exchanged for chlorides, utilizing a basic anion exchange resin. The exchange capacity is largely governed by the concentrations of nitrates and sulfates, which are effectively retained until breakthrough; alkalinity and chlorides have little effect. Initially, the bicarbonate alkalinity is removed by the anion resin but is re-exchanged (released) later during the exhaustion cycle. The Environmental Protection Agency's Federal Primary Drinking Water Standards have established that the nitrate levels in water be no more than 10 mg/L. Hungerford & Terry's countercurrent nitrate removal system easily reduces nitrates to a level much lower than those allowed by Federal standards.

Hungerford & Terry, considered industry pioneers in water treatment technology, developed and patented the Ferrosand CR filter – a reliable, cost-effective system for removal of iron, manganese and arsenic from water. Today, the Ferrosand CR filter remains an important fixture in the field of potable water treatment.

New Water Treatment Technology for Nitrate, cont'd

Since 1909, Hungerford & Terry has designed and manufactured thousands of systems incorporating standard and unique water treatment technologies, including demineralization and filtration systems for corporations, utilities, water companies and municipalities.

Based in Clayton, New Jersey, USA Hungerford & Terry has 30 technical representative organizations that cover the U.S. as well as representatives for Canada, Mexico and Central and South America, Europe and Asia.

For further information on the ELIMINATE system or other water treatment technology, contact Mr. Ken Sayell, Vice President, Hungerford & Terry Inc., 226 Atlantic Avenue, Clayton, NJ, 08312-0650, Tel: 856.881.3200, Fax: 856.881.6859, email: sales@hungerfordterry.com or web site: www.hungerfordterry.com

