

Press release

January 8, 2020

Water Technologies

Veolia supplies crystallization technology to produce premium potash fertilizer in Turkey



Veolia Water Technologies will provide key processing technologies integrating [HPD® crystallization systems](#) designed to produce high-quality sulfate of potash.

In a world with a growing emerging class of more affluent consumers, the demand for high-value foods such as fresh fruits, vegetables, nuts, and coffee is soaring. Thanks to greenhouses and precision irrigation, these plants are grown in arid areas with otherwise inhospitable soils and climates. But because some of these specialty crops are sensitive to chloride, traditional potassium fertilizers cannot be applied. In Turkey, the solution comes at a high cost. That means, importing a multi-nutrient fertilizer that is chloride-free and water-soluble: potassium sulfate or sulfate of potash (SOP).

To make this product more affordable and locally available, Istanbul, Turkey-based Alkim Alkali Kimya A.S. (Alkim), one of the largest sodium sulfate producers in the world, decided to invest in its Koralkim facility near Dazkırı on the coast of lake Acıgöl to produce up to 50,000 tons per year of soluble-grade SOP.

The best way to the purest crystals

Because SOP is not a naturally occurring mineral, Alkim awarded Veolia a contract to supply [HPD® crystallization technology](#) to produce SOP in crystalline, fully-soluble form. The chemical reaction between purified potassium chloride and brine saturated with sulfate salts takes place inside draft tube baffle crystallizers which allow for the reaction time under controlled temperature to promote the growth of highly-pure SOP crystals.

Veolia's solution, which also includes multiple-effect crystallizers to produce almost 35,000 tons per year of food-grade sodium chloride as a by-product, optimizes capital investment by utilizing Alkim's existing cogeneration units. Operating expenses are controlled by maximizing water and steam economies through the recovery of clean condensate and residual heat used for dissolving and heating the incoming solution of potassium chloride.

Alkim has relied on Veolia two times before to deliver the initial crystallization system and a subsequent expansion at the facility in Çayırhan near Ankara and to produce pure sodium sulfate from solution-mined Glauberite extracted from underground natural deposits. The success of those installations along with that of the laboratory bench testing performed to de-risk the project and validate the design and performance projections, gave Alkim the confidence to select Veolia once again.

For Reha Kora, CEO of Alkim, *"this is a continuation of working together with Veolia on several projects for many years."* The executive also drew attention to the future of the project and his conviction in the relationship. *"We have the total confidence that this SOP project will be realized with great success."*

"We are pleased to support Alkim in the production of high-quality potash fertilizers to meet the demand in Turkey and beyond. HPD crystallization technologies exemplify the value that Veolia brings to the fertilizer industry in extracting soluble crop nutrients with the most efficient energy and water use" said Jim Brown, CEO of Veolia Water Technologies Americas.

Through its long, proven history with [HPD® evaporation and crystallization technologies](#) applied in industrial chemical processes, Veolia helps fertilizer and other inorganic salt producers to optimize their industrial operations and the value of its products with a focus on enhancing environmental sustainability as well as energy and resource efficiencies.

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Veolia group is the global leader in optimized resource management. With over 171,000 employees worldwide, the Group designs and provides water, waste, and energy management solutions which contribute to the sustainable development of communities and industries. Through its three complementary business activities, Veolia helps to develop access to resources, preserve available resources, and to replenish them.

In 2018, the Veolia group supplied 95 million people with drinking water and 63 million people with wastewater service, produced nearly 56 million megawatt-hours of energy and converted 49 million metric tons of waste into new materials and energy. Veolia Environnement (*listed on Paris Euronext: VIE*) recorded consolidated revenue of USD 30.6 billion in 2018. www.veolia.com

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