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Rethink Tomorrow

Wastewater Solutions

Novozymes BioQuick™ 5130

Application Sheet

BioQuick 5130 is a comprehensive blend of microorganisms and nutrients formulated for the rapid start-up or recovery of membrane biological reactors (MBRs). It quickly increases biological activity without harming the membrane filtration system.

Benefits

Start-up or recovery of an MBR system can be difficult. Traditional start-up of biological treatment plants has relied on importing seed sludge from another treatment plant. This can often result in a prolonged acclimation time and potential accumulation of inert solids which can interfere with the membrane filtration system. The use of BioQuick 5130 for start-up of an MBR system eliminates the need and expense of importing seed sludge, and the reduced solids formulation minimizes membrane fouling. By shortening the start-up or recovery time by promoting maximum growth rates, the efficiency of the plant is quickly improved, whereas the use of seed sludge often requires an acclimation period.

Performance

BioQuick 5130 contains a wide spectrum of adapted microorganisms which rapidly grow into a viable biological floc. In addition, the product contains the nutrients phosphorus and ammonia to promote rapid biological growth and contains no inert solids.

A rural hydroelectric plant which had installed a 167 m^3/day (50,000 gpd) MBR for waste treatment had to achieve a quick start-up to meet regulatory requirements. Targets for start-up included building the biomass to greater than 1,000 mg/L MLSS and meeting COD and ammonia discharge limits (50 mg/L and 3 mg/L respectively) within the first week.

BioQuick 5130 was added to the aeration tank of the MBR. Aeration was carefully monitored, and antifoam was added to minimize foaming due to new bacterial growth. All parameters for start-up were achieved within 4 days of addition, including COD < 50 mg/L and MLSS > 1,000 mg/L, as shown in Figures 1 and 2.

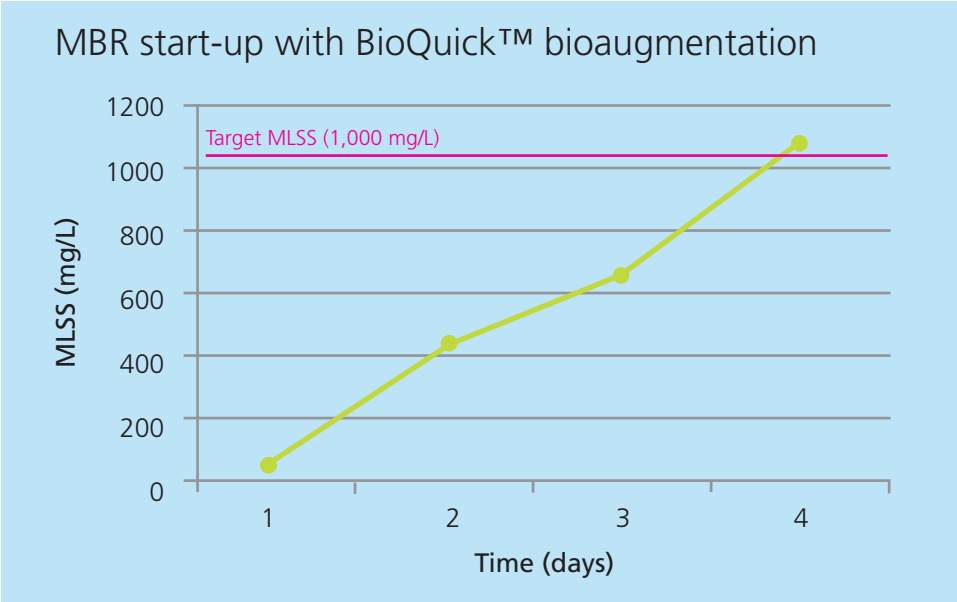

Fig. 1. MLSS increase using Novozymes BioQuick 5130.

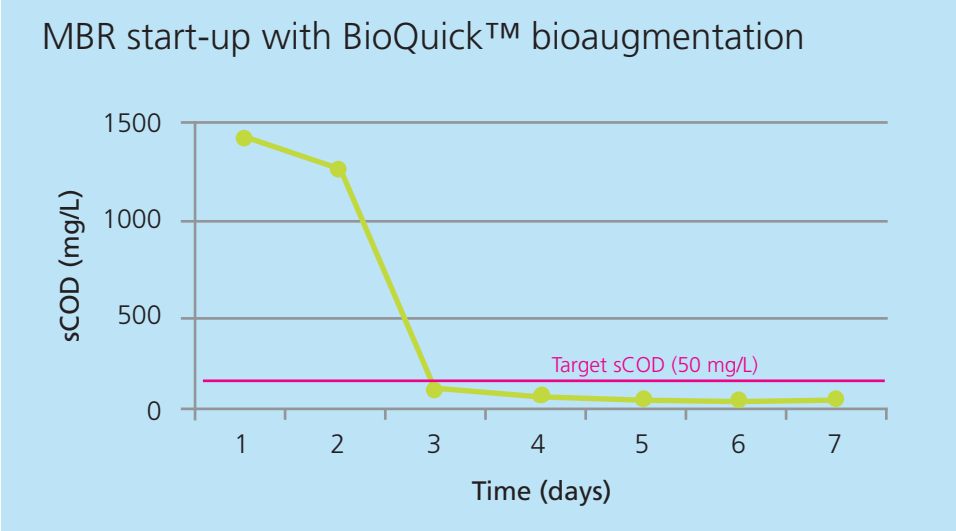

Fig. 2. COD reduction using Novozymes BioQuick 5130.

Recommended use

BioQuick 5130 can be used for start-up of industrial or municipal wastewater MBR systems. It is applied directly into the aeration tank or via the aeration tank inlet.

BioQuick 5130 is applied according to Novozymes' standard dosing guidelines as determined by the wastewater flow rate, COD, and size of the MBR.

Product characteristics

The product comes as a free-flowing, tan powder which is completely soluble.

Safety, handling, and storage

Store BioQuick 5130 in a cool, dry place. The recommended storage temperature is 10–35 °C (50–95 °F). Avoid excessive inhalation. Avoid contact with eyes. Wash hands thoroughly with warm, soapy water after handling.

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