

POLYSEED NX®

CBOD Seed Inoculum for use in:

Carbonaceous Biochemical Oxygen Demand (CBOD₅) test procedures of wastewater, effluent, and polluted water whenever nitrogenous oxygen demand must be inhibited, as conducted according to *Standard Methods for the Examination of Water and Wastewater*

POLYSEED NX® is a blend of specialized microbial cultures containing a chemical additive for the inhibition of nitrifying bacteria in wastewater sample. In an easy-to-use capsule, **POLYSEED NX®** is packaged and designed to provide a standard seed source for the degradation of both industrial and municipal waste in CBOD₅ analyses. The amount of nitrification inhibitor used is comparable to that which is stated in Standard Methods as necessary for sufficient inhibition.

To measure the CBOD of a water sample, the sample must contain a sufficient population of microorganisms capable of oxidizing the biodegradable organic matter present. Sources that may contain a satisfactory microbial population are domestic wastewater, unchlorinated effluents from biological waste treatment plants, and surface waters receiving wastewater discharge. Examples of waste stream that generally do not contain a sufficient microbial population are untreated industrial wastes, disinfected wastes, high temperature wastes, and wastes with extreme pH values. The naturally-occurring microbial populations of these waste streams must be augmented, or seeded, with a viable microbiological population to ensure sufficient oxidation for an accurate measurement.

An accurate measurement of the carbonaceous fraction of the biochemical oxygen demand also requires, where appropriate, the inhibition of nitrogenous oxygen demand (NOD). Through addition of an appropriate chemical, the ability of nitrifying organisms present in the sample to oxidize nitrogenous compounds can be inhibited. Elimination of possible interference from NOD is especially important when measuring the CBOD of samples of secondary effluent or of polluted waters, either of which could contain significant numbers of nitrifying organisms.

The preferred seed source for microbially deficient wastes is the non-disinfected effluent from the biological treatment system processing the waste. When this is unavailable, other possible seed sources include effluent from a biological treatment system processing a similar waste stream (often equally difficult to obtain) or the supernatant from settled domestic wastewater (unlikely to contain the specific microbial population necessary to oxidize the waste in question). Even if the effluent is available as a seed source, an additional step is required to add inhibitor separately to each CBOD bottle whenever nitrification must be inhibited.

An attractive solution to the myriad of problems associated with CBOD seeding is the use of **POLYSEED NX®**. **POLYSEED NX®** supplies an immediate source of specialized microorganisms. The advantages of readily availability, low cost and consistently good results soon persuades users that **POLYSEED NX®** is the only seed source necessary for all their CBOD determination.

For more information contact:

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