

BOD Standard Solution

For Dilution Method

Cat. No. 14865-10



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Proving Dilution Method BOD Test Accuracy

Many factors can affect the performance of the BOD test. To determine reliability of the routine test results, BODs are run on a pure organic standard having a known or determinable BOD. The widely accepted BOD standard is a mixture of glucose and glutamic acid. Increasing increments (1,2,3, and 4 mL) of a BOD standard, Voluette Ampule Standard for BOD, Dilution Method, Cat. No. 14865-10, are added to the BOD bottles which are then filled with seeded dilution water and incubated at 20° C for five days. The amount of dissolved oxygen remaining after five days is plotted against the volume of standard used and the best straight line through the accepted points drawn. The slope of the line is determined, and this value multiplied by the volume of the BOD bottle gives the BOD of the standard. The sample DO and the Y intercept will be nearly equal (unless there is a substantial blank) and will cancel out in this case.

On the basis of a mixed primary standard containing 150 mg/L each of glucose and glutamic acid, the five-day BOD varies in magnitude according to the type of seed and in precision according to the quality of seed. Enough seed is needed to assure satisfactory numbers of microorganisms but not so much that the oxygen demand of the seed itself is a major part of the oxygen used during incubation. Determine the BOD of the seeding material as for any other sample. The DO uptake of the seeded dilution water should be between 0.6 and 1.0 mg/L.*

The five-day BOD value of the standard should be in the range of 198 ± 30.5 mg/L. Because the BOD standard prepared by Hach contains 300 mg/L each of glucose and glutamic acid, the BOD value determined from the graph must be divided by 2.

*Standards Methods, 18th Ed.

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Instructions Cat. No. 14865-88

MADE IN U.S.A.