Aim 31 To Determine the Biochemical Oxygen Demand (BOD) of Water Sample

Introduction

The amount of oxygen required by aerobic microorganism to decompose the organic matter in a sample of water is termed as BOD. It gives the estimation of biologically oxidisable organic matter present in the water.

Water has to be incubated for a period of 120± 1 hour at 20°C (or for 3 days at 27°C) in the dark to measure the BOD and the amount of oxygen used up after incubation. Dilute the water sample in such a way so that oxygen should not act as a limiting factor or it should not be completely exhausted before the biologically oxidisable organic matter is oxidized.

When water content increases, oxygen required by the bacteria to metabolize is also increased leading to the higher value of BOD content. In whole, estimation of amount of organic matter present in sewage sample can be obtained by BOD value.

Oxygen is also consumed by nitrification process also consumes so add allyl thiourea inhibit this process.

Requirments

1. pH paper/pH meter
2. BOD incubator
3. BOD bottles
4. Burette
5. Conical flask
6. Water collected from different sources.

7. Allyl thiourea solution 1%
8. Reagent for DO estimation

Procedure

1. Set the pH of the water samples to neutral (check pH).
2. Pour 50 ml of water samples in BOD bottles (In duplicate).
3. 1 ml of allyl thiourea solution is added in each bottle.
4. One set of 50 ml of water sample is taken from above and determine the D.O. content.
5. 2nd set is incubated at 20°C in BOD incubator for 5 days.
6. Estimation of the dissolved oxygen content can be done after 5 days.

Observation Table

Sr. No.	Initial DO (mg/l) (A)	Final DO after 5 days (mg/l) (B)	BOD (mg/l) (A-B)
1			
2			
3			
4			
5			
6			

BOD (mg/l) = initial DO of sample – DO after 5 days incubation