

	Environmental Analysis Teaching and Research Laboratory	Date: X/XX/XXXX	Number: 24 v.03
	Standard Operating Procedure	Title: BOD5	
	Approved By: TBD	Revision Date: September 14, 2016	

1. Scope and Application

1.1 The scope of this SOP is train researchers...

1.2 The applications of this SOP are for...

2. Summary of Method

2.1 This SOP does this...

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3. Acknowledgements

4. Definitions

4.1 Term1: is...

5. Biases and Interferences

5.1 Biases and interferences can come from...

6. Health and Safety

6.1 Describe the risk...

Safety and Personnel Protective Equipment

7. Personnel & Training Responsibilities

7.1 Researchers training is required before this the procedures in this method can be used...

7.2 Researchers using this SOP should be trained for the following SOPs:

- SOP01 Laboratory Safety
- SOP02 Field Safety

8. Required Materials and Apparati

8.1 Needed for the preparation of blank

- 1000 mL recipient
- pH meter and pH buffer solutions for calibration
- air pump
- Micropipette of 100-1000 μL and tips of 1000 μL
- Magnetic stirrer and magnetic agitator

BOD5concentration (mg BOD5 L ⁻¹)	Sample volume V _{total} (mL)	Volume of each sample (mL)	Volu
0-40	432.0	216.0	436.
0-80	365.0	182.5	365.
0-200	250.0	125.0	250.
0-400	164.0	82.0	48.5
0-800	97.0	48.5	97.0
0-2000	43.5	21.75	43.5

Table 1: Needed volume of dilution water in function of the BOD5 concentration in the sample

8.2 Needed for the preparation of dilution water - 1000 mL recipient - pH meter and pH buffer solutions for calibration - air pump - micropipette of 100-1000 μ L and tips of 1000 μ L - magnetic stirrer and magnetic agitator

8.3 Needed for the preparation of the incubation bottle for two water samples and one blank - 3 WTW OxiTop manometers(Fig. 1) - 3 BOD5 incubation bottles (Fig. 1) - 3 quivers made of rubber (Fig. 1) - 500 mL cylinder - 3 magnetic agitator

9. Reagents and Standards

3.2.1. Needed for the dilution water (here for a measuring range of 0-200) The needed volume of dilution water depends on the BOD5 concentration of the samples according to Table 1.

As an example, the volume needed for a measuring range of 0-200 mg BOD5 L⁻¹ is explained in detail. In total, 500 mL of dilution water is needed for the analysis of 1 blank and 2 samples. Therefore, 800 mL dilution water is made.

10. Estimated Time

10.1 This procedure requires XX minutes...

11. Sample Collection, Preservation, and Storage

12. Procedure

12.1 Prepare ...

12.2

13. Data Analysis and Calculations

14. QC/QA Criteria

15. Trouble Shooting

16. References

- 16.1** APHA, AWWA. WEF. (2012) Standard Methods for examination of water and wastewater. 22nd American Public Health Association (Eds.). Washington. 1360 pp. (2014).