

**DATA SHEET: BIOCHEMICAL OXYGEN DEMAND (BOD<sub>3</sub> at 30°C)**

pH value : \_\_\_\_\_

NaOH or H<sub>2</sub>SO<sub>4</sub> volume : \_\_\_\_\_

Time, (day)	DO <sub>o</sub>		DO <sub>t</sub>		BOD <sub>t</sub> ( mg/L)	(t/BOD <sub>t</sub> ) <sup>1/3</sup>
	mg/L	°C	mg/L	°C		
1						
2						
3						

$$BOD_t = \frac{DO_i - DO_t}{P}$$

Where:

BOD <sub>t</sub>	Biochemical oxygen demand, mg/L
DO <sub>i</sub>	Initial DO of the diluted waste water sample about 15 min. after preparation, mg/L
DO <sub>t</sub>	Final DO of the diluted wastewater sample after incubation for <i>t</i> days, mg/L
P	Dilution factor  $P = \frac{V_S}{V_S + V_{DW}}$ <i>V<sub>S</sub></i> = Volume of sample <i>V<sub>DW</sub></i> = Volume of Dilution Water

**QUESTION:**

1. Plot (t/BOD<sub>t</sub>)<sup>1/3</sup> versus time (day)
2. From the graph, determine the intercept (A) and slope (B) and calculate the K value where K = 2.61 (B/A).
3. Calculate value of BOD<sub>5</sub> at 20°C.
4. Discussion and conclusion on the results.