TOP GLOVE SDN. BHD

WORK INSTRUCTION

Industrial Effluent Treatment System Test :BOD Test

Purposes/Function/Objective

-to determine biological oxygen demand (BOD) to make sure quality of water discharge are within DOE standard

Materials/ Chemicals/ Tools/Equipment

1. 300mL capacity BOD bottles
2. Dissolved Oxygen meter
3. Water container With cap(10L)
4. Pipette
5. Beaker
6. Incubators regulated at 20 ± 2°C.
7. BOD nutrients Buffer Pillow
8. Seeding agent

Specification Calculation

When sample is not seeded:

$$\text{BOD5 mg} = \frac{(\text{DO depletion} \times 300)}{\text{sample volume}}$$

When sample is seed:

BOD5, mg/L=

[(DO depletion) - (seed depletion) f] x dilution factor.

f = volume seed in diluted sample bottle/volume seed in seed control.

Form/s

- NIL

(Effective Date : 02/05/2011)

Procedures

Sample Preparation

Keep a sample more than 6 hours at temperature 4°C. Then bring the sample to incubator at temperature of 20°C.

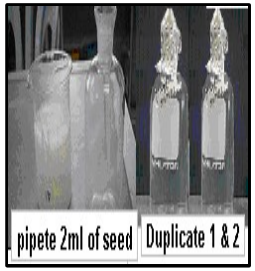
Dilution water preparation

Mix 3L of distilled water in partially filled container for 1 minute. Then add 1 nutrients buffer pillow, invert several times for mixing before store in 20°C incubator.

Seed control and Blank preparation

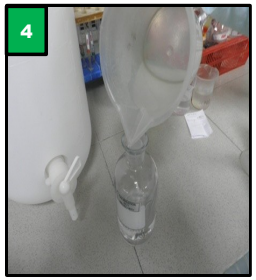
2 BOD Bottle that content different dilution of seed. (If sample need to be seeded)

2 BOD Bottles for Blank. Only filled with dilution water



Seeded the sample (if necessary)

Pipette the amount (1 to 2ml) seeding solution to the each sample's BOD bottle. Make sure the same amount of seed is place in each bottle



Sample Dilution

From the COD Value of sample and dilution table (Table 1). Estimate the sample volume to be added into the BOD bottle. Pipette the sample directly into each BOD bottle, then dilute with dilution water. Duplicate the sample.

Initial Dissolved Oxygen (DO) Analysis

Record the initial DO before "top-off" with dilution water. Then insert a glass stopper ,wrap bottle cap with aluminium foil. **Remarks** ***:Transfer of liquid should be accomplished with minimal amount of agitation to ensure no bubbles produce.***

Incubation

Incubate in incubator for 5 days with temperature 20°C,

Final Dissolved Oxygen (DO) Analysis

After 5 days remove from incubator then record the final DO and calculate the BOD5

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