

**ENVIRO TECH CHEMICAL SERVICES STANDARD OPERATING PROCEDURE**

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Revised Section(s): Modified Section V.			

- I. TITLE:** PROCEDURE FOR THE ACTIVATION OF HB2
- II. PURPOSE:** This document demonstrates the proper procedure laboratory personnel must follow for the activation of HB2.
- III. EQUIPMENT / REAGENTS:**  
 City water (Tap)  
 HB2 Solution  
 Bleach (Any concentration will suffice)  
 Syringes  
 Magnetic stir plate with magnet or glass rod  
 pH Meter
- IV. ASSOCIATED MATERIALS:**  
 ETQC35 HB2: Procedure for Validation of Bromine and Chlorine for Process Equipment (Modified DPD Method)  
 ETQC28: Analysis by HACH Colorimeter
- V. PROCEDURE:**
1. Measure out 900 ml of tap water.
  2. Using a syringe, add 4.8 ml of HB2 solution.
  3. Using a magnetic stir plate and stir bar or glass rod, mix the solution gently to homogenize.
  4. Smoothly add the bleach using a clean syringe until the solution turns from a pale yellow to a dark orange and then back to a straw color. If

using 12.5% bleach, the volume added should be around 9 ml. If using another bleach concentration, calculate the volume needed and adjust accordingly.

5. Measure the pH of the solution (should be between 6.9-7.4). Keep solution out of direct UV light. Add more HBr or bleach to obtain the correct pH if necessary.
6. Results should be close to 1333 ppm as Cl<sub>2</sub> (3000 ppm as Br<sub>2</sub>). Do not use the solution if it is over two hours old. Use immediately.
7. To obtain a 225 ppm Br<sub>2</sub> solution, use one part of the solution made in step 6 to 13 parts water. The actual activity can be measured following “ETQC35 HB2: Procedure for Validation of Bromine and Chlorine for Process Equipment (Modified DPD Method)” or Section IV and Section VI of “ETQC28: Analysis by HACH Colorimeter.”