Prepare your own GGA

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The following are directions to prepare your own Glucose Glutamic Acid (GGA) standard solution for the BOD_5 as outlined in Standard Methods.

- Prepare fresh immediately before use. This is important since GGA solutions have a very short shelf life and you must do this to comply with Standard Methods.
- To prevent contamination all glassware must be cleaned thoroughly with a laboratory grade detergent. After cleaning we suggest an acid rinse to remove any and all biological growth. This can be done by filling container with DI water and adding 10ml of 1:1 HCl and allow to sit for ½ hour. Rinse with DI water until all residual is gone.
- Dry reagent grade Glucose and L-Glutamic acid in an oven @ 103º C for 1 hour. Cool in a desiccator and keep there until used.
- On the day of test set up, weigh out exactly 150 mg Glucose, and 150 mg of the L-Glutamic acid.
- Using volumetric glassware, measure exactly 1 Liter of DI water and pour into beaker. Add the measured Glucose and L-Glutamic acid to the liter of DI water in the beaker and stir with a stir bar for at least 15 minutes to completely dissolve the reagents into solution.
- Distribute exactly 6 mls of the GGA solution into bottles by using a volumetric pipette, paying particular attention to bringing the bottom of the meniscus of the solution to the top of the 6 ml line. To prevent contamination store in a covered container that has been cleaned thoroughly as described above.

Note: Pre-made, commercial GGA solution may be purchased through your lab supply company and is a very useful tool to save time. Keep in mind, GGA is a food source for the bacteria, so if the bottle becomes contaminated, and you are depending on a certain amount of food source to be available to meet criteria, you could miss the mark. Always have reagent grade Glucose and L-Glutamic Acid on hand to run against the pre-made solutions when in question. Also, some pre-made solutions are made double strength, so when using these solutions, you must be twice as careful when measuring the 3 ml of solution.