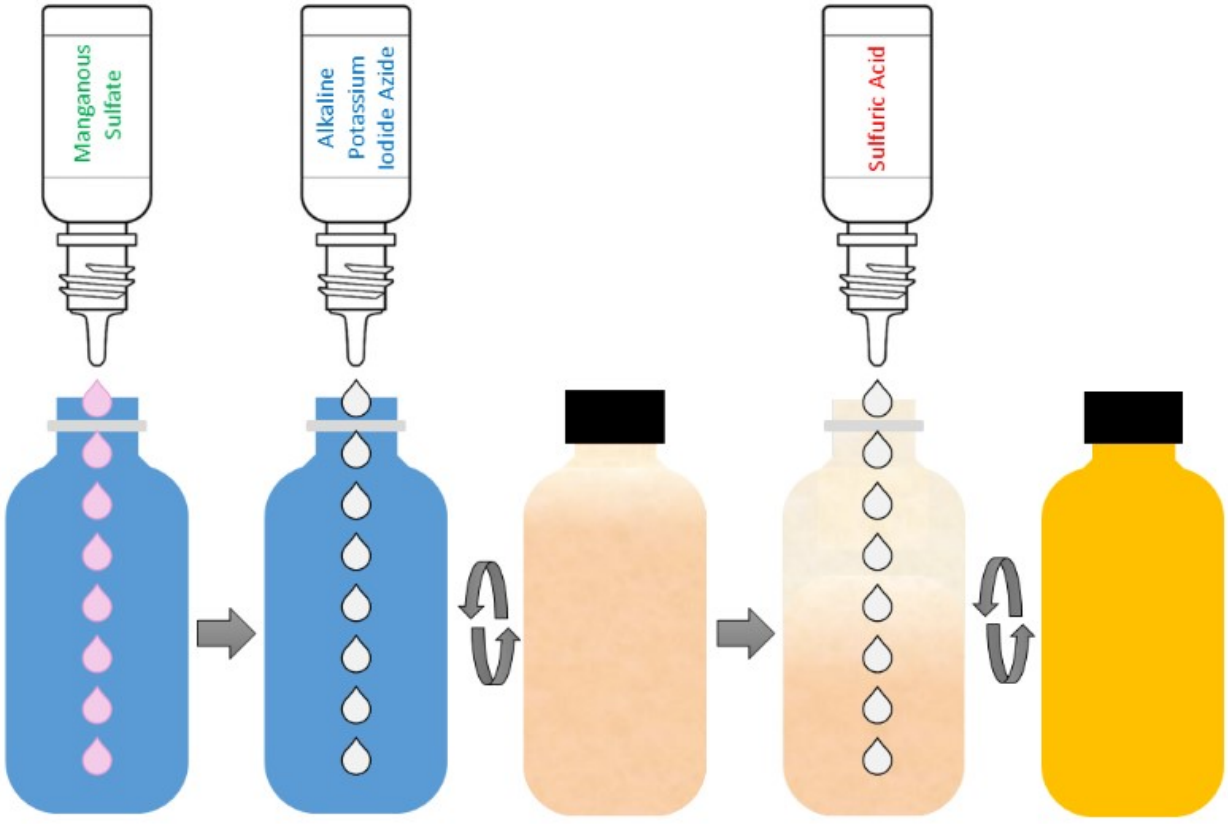
Procedure for Measuring Dissolved Oxygen (LaMotte Dissolved Oxygen Liquid Reagent Kit)

Fixing the Sample

1. Carefully add 8 drops of the **Manganous Sulfate Solution** without touching the tip of the reagent bottle to the sample.
2. Similarly, add 8 drops of **Alkaline Potassium Iodide Azide**. Recap the sample bottle and mix the contents by inverting the bottle several times. A pale precipitate will form.
3. Allow the precipitate to settle below the shoulder of the sample bottle, about one-third to one-half way to the bottom of the bottle.

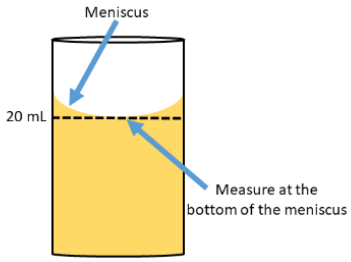
4. Once the precipitate has settled, carefully open the sample bottle and add 8 drops of **Sulfuric Acid** without touching the tip of the reagent bottle.
5. Recap the sample bottle and gently mix the contents by inverting the bottle several times. All of the precipitate should dissolve, and if oxygen is present the solution will turn golden yellow. The sample is now fixed. At this point, the sample can be left to process for a few hours without risking error in the measurement.



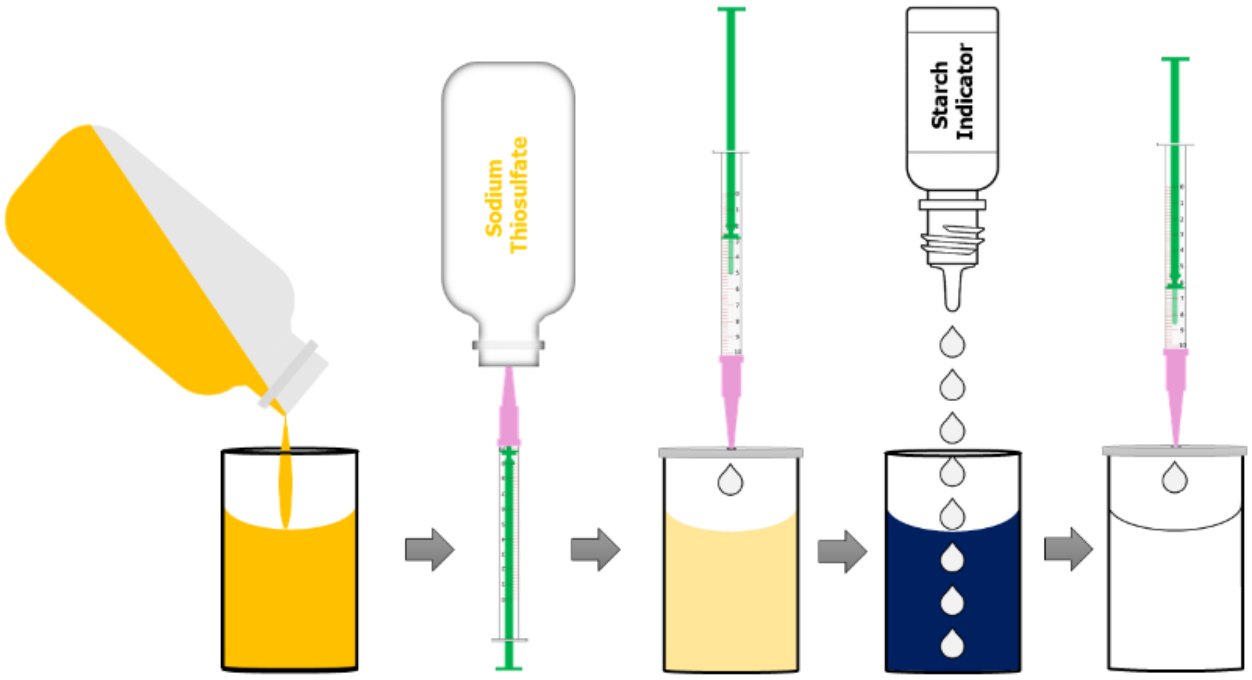
Method Check:

- Are you wearing goggles and gloves?
- Are your reagent bottles straight up and down?
- Are the tips far enough from the sample you are not contaminating the reagents?
- Are you adding the correct number of drops.

Analysis of the Dissolved Oxygen Sample



1. Wearing gloves and <u>safety</u> glasses, open the sample bottle and remove the cap from the titration tube. Rinse the tube three times with a small amount of the sample. Next, fill the tube to the 20 mL line with the water from the bottle. Water in the tube will form a meniscus; a concave curved surface that is higher around the edges and lower in the center. The tube should be filled so that the bottom of the meniscus is level with the 20ml graduation line. Cap the tube. Recap the sample bottle and the tube.
2. Making sure the plunger on the titrator is completely depressed; insert the titrator tip into the bottle of Sodium Thiosulfate. Invert the bottle and titrator. Slowly pull down the plunger until the indicator on the plunger is opposite the zero mark. If air bubbles are present in the titrator, completely depress the plunger and refill the titrator. Once the titrator is full and free of air bubbles, turn the bottle upright and remove the titrator, and cap the reagent.
3. Insert the tip of the titrator into the cap on the titration tube. Slowly depress the plunger, adding thiosulfate to the sample one drop at a time. Swirl (do not shake) to stir in the thiosulfate. Continue adding drops of thiosulfate until the solution turns pale yellow. *Be sure to swirl the tube in between adding drops of thiosulfate.*
4. Once the solution has turned pale yellow, remove the titrator and uncap the titration tube. Add 8 drops of **Starch Indicator** without touching the tip of the reagent bottle to the sample. The solution should turn a deep blue color, which aids in seeing the color change.
5. Recap the titration tube and replace the titrator. Add thiosulfate one drop at a time (just like before) until the solution turns from blue to colorless. Be sure to swirl the tube between drops. If you deplete the thiosulfate, refer to step 3 to refill the titrator completely.



Getting your D.O. Measurement

1. After the color indicator is completely clear, read the scale on the titrator.
2. Each line represents 0.2 ppm.
3. If you had to refill the titrator, remember to add 10 ppm to your final result.
4. Empty the titrator into the waste container.
5. Rinse the tip over the waste container and shake it a bit to remove any drops of water. No need to rinse the inside of the titrator.

*****ALL CHEMICAL WASTE NEEDS TO BE PUT INTO THE WASTE CONTAINER FOR PROPER DISPOSAL*****