


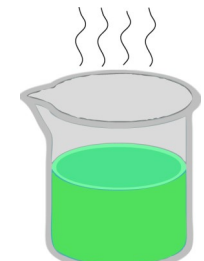
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STEP 1: CHECK EQUIPMENT
1A: ALL EQUIPMENT SHOULD BE CLEAN & IN PLACE.
1B: IF YOU RINSE, SHAKE OUT DROPLETS CAREFULLY.

1. Burette (w/ EDTA level at zero)	5. 10 ml pipette, w/ measuring pump
2. 100 ml flask	6. Ammonium hydroxide
3. Long handled scoop for collecting sample	7. Murexide w/ 0.5 g spoon
4. Sample beaker	8. Graduated cylinder for DI water
	9. Chart for conversion

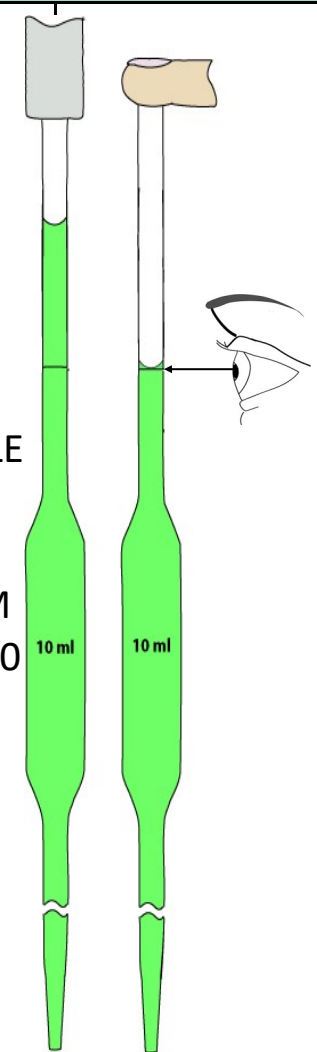
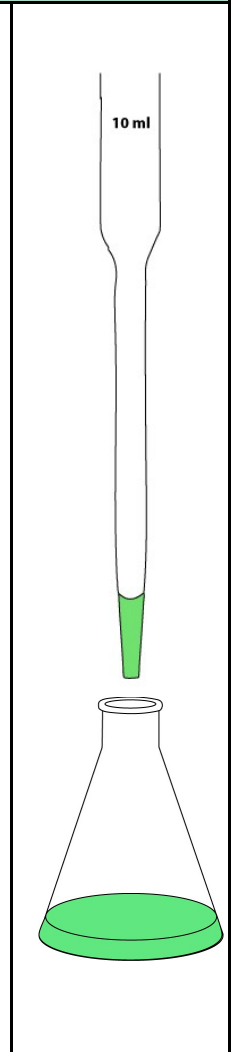
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STEP 2: GET EN SAMPLE — ABOUT 40-50 ML

<p>2A: CHECK LEVEL OF EN TANK.</p> <ul style="list-style-type: none"> TOO LOW? FILL TANK & WAIT 10 MINUTES. TOO HIGH? PROCEED W/ TITRATION & GIVE LAB RESULTS IMMEDIATELY. 	<p>2B: USE SCOOP TO GET SAMPLE — ABOUT 40-50 ML — & POUR INTO 100 ML BEAKER AT TANK.</p> 
	<p>2C: COOL SAMPLE AT BENCH — 3 MINUTES.</p>

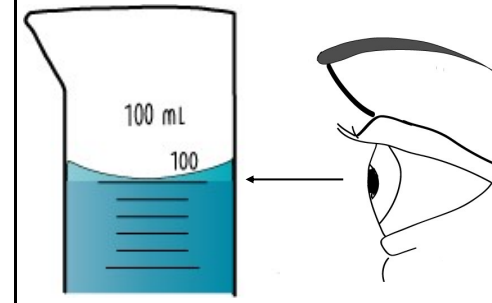
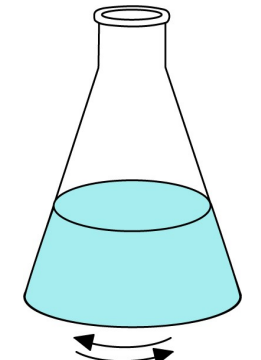
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STEP 3: MEASURE 10 ML EN SAMPLE WITH PIPETTE & TRANSFER TO BEAKER

<p>3A: RINSE PIPETTE W/ EN SOLUTION.</p> <p>3B: DRAW EN SAMPLE.</p> <ul style="list-style-type: none"> HOLD PIPETTE STRAIGHT UP & DOWN WITH 10 ML MARK AT EYE LEVEL, ROLL KNOB TO ADD/SUBTRACT EN SAMPLE GET RID OF AIR BUBBLES. STOP WHEN BOTTOM OF MENISCUS IS AT 10 ML MARK. 	<p>3C: EMPTY EN SOLUTION INTO THE 250 ML BEAKER.</p> <ul style="list-style-type: none"> DO NOT SHAKE OUT REMAINING DROPS! 10 ML MARK IS SET TO ACCOUNT FOR REMAINING AMOUNT. 
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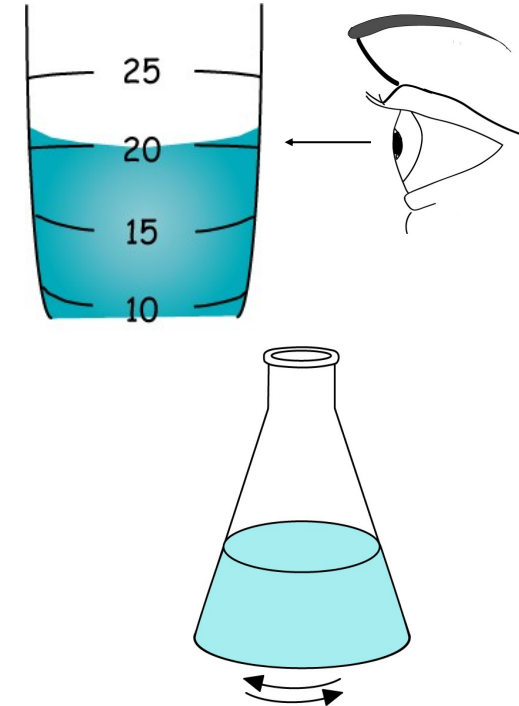
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STEP 4: MEASURE 100 ML DI WATER INTO GRADUATED CYLINDER & MIX .

<p>4A: GET 100 ML OF DI WATER</p> 	<p>4B: MIX WATER W/ EN SOLUTION.</p> 
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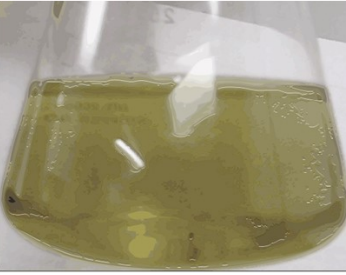
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STEP 5: MEASURE 20 ML AMMONIUM HYDROXIDE & MIX.



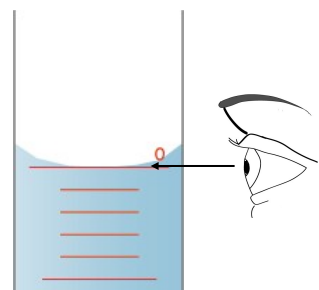
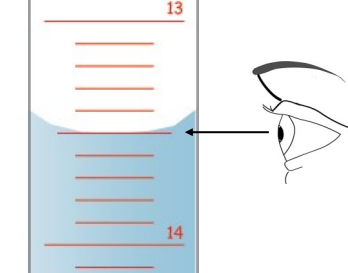
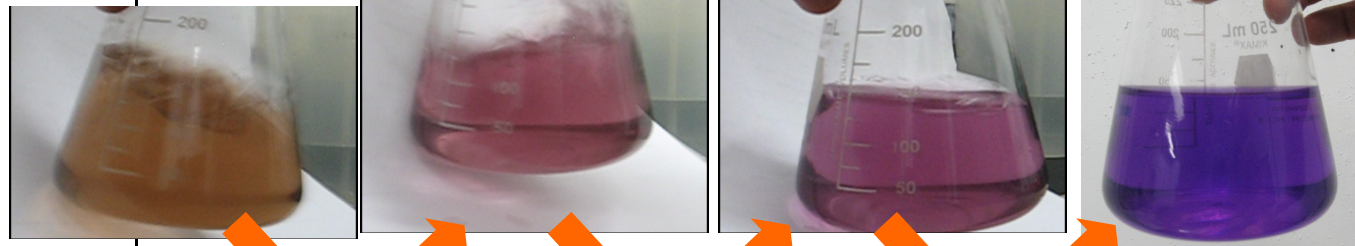
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STEP 6: MEASURE LEVEL 0.5g SCOOP OF MUREXIDE & MIX.

<p>6A: GET LEVEL (NOT HEAPING) 0.5g SCOOP OF MUREXIDE.</p> 	<p>6B: ADD MUREXIDE & SWIRL UNTIL SOLUTION IS LIGHT STRAW COLOR.</p> 
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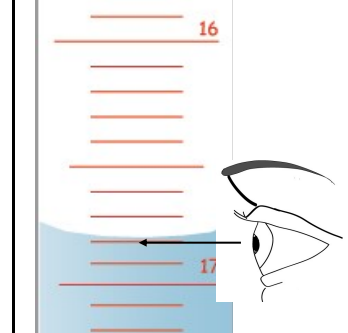
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STEP 7: TITRATE

<p>7A: SET EDTA CYLINDER TO ZERO.</p> 	<p>7B: PLACE SAMPLE BEAKER UNDER BURET &, KEEPING EYE ON CHANGING LEVEL, OPEN VALVE & DECREASE LEVEL TO 13 1/2.</p> 	<p>7C: KEEPING EYES ON FLASK, CHECK FOR COLOR CHANGE TO REDDISH AS YOU SLOWLY ADD & SWIRL.</p> 	<p>7D: WHEN COLOR STARTS TURNING REDDISH (FROM BROWNISH-GOLD), DRIP, SWIRL, CHECK.</p>	<p>7E: WHEN COLOR NO LONGER CHANGES AFTER DRIP IS ADDED & SWIRLED TO MIX, ENDPOINT HAS BEEN REACHED.</p>
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STEP 8: CHECK & RECORD LEVEL OF EDTA SOLUTION IN BURETTE.

	<p>8A: ROUND OFF RESULT TO NEAREST TENTH.</p> <p>8B: WRITE DOWN YOUR RESULT AS SOON AS POSSIBLE.</p> <p>[IN THIS EXAMPLE, FINAL READING IS 17.2. YOUR RESULT WILL PROBABLY BE DIFFERENT.]</p>
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STEP 9: DETERMINE NICKEL CONCENTRATION

9A: USE CHART TO DETERMINE NICKEL CONCENTRATION PERCENTAGE OF SOLUTION.

9B: RECORD ON

- PROCESS CONTROL CHART &
- TANK GRAPHIC FOR APPROPRIATE TANK.

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STEP 10: DUMP SAMPLES & CLEAN UP.

- REPLACE UNTESTED SAMPLE IN TANK.
- DUMP TEST SAMPLE IN SUMP PUMP.
- CLEAN ALL EQUIPMENT USED, & STORE UPSIDE-DOWN TO DRY.