

Ethanolamines/Glycol Ethers

Tier 3 Procedure

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Title: DB Color Stability Tests
References:

662. DB COLOR STABILITY TESTS

1.0 Objective:

1.1 The objective of this procedure is to determine potential of color changes under various conditions.

2.0 Responsibility

2.1 It is the responsibility of the person following this procedure to make the following solutions of DB up and heat to 120-125 in the lab oven and measure color initially, then at 3, 5 and 24 hours later.

3.0 Safety Equipment

3.1 Safety Glasses, Thermal Gloves, Latex Gloves

4.0 Safety Hazards

4.1 Thermal/Chemical Burns
4.2 Refer to MSDS sheets

5.0 Materials

5.1 1 liter of DB before the filter
5.2 25 mls of Phosphorous acid
5.3 2 pellets of Sodium Borohydride

6.0 Procedure

6.1 Place the mixtures listed below in five 250 mL pyrex jars (The ones with orange top) and place in laboratory oven.

1. Tare the jar, lid, and a stirring bar.
2. Label 250 mL pyrex sample jars 1-5.
3. Pour the indicated amount of DB, acid, and sodium borohydride into each jar.
Sodium borohydride pellets can be found in warehouse.
They will have to be crushed to a fine powder with mortar and pestal.
Please do this in the hood.
Phosphorous acid can be found in western lab wall cabinet.

(Use latex gloves when handling acid and sodium borohydride.)

4. Mix well using mechanical stirrer for 3-5 minutes.
5. Pour approximately 50 ml of solution into Klett Cell.
6. Measure color using Hunter Colorimeter just like a normal DB sample.
7. Record color on this sample sheet.
8. Dispose of material in Klett cell.
9. Loosely place lids on all five jars and put in lab oven.
10. Using thermal gloves take sample jars out 3, 5 and 24 hours after first putting them in.
11. Repeat steps 4-7.

DB Color Stability Sample Sheet

Sample	Weight of DB (g)	Weight of Phosphorous Acid (g)	Weight of Sodium Borohydride (g)
1	200	0.5	0
2	200	0.25	0
3	200	0	0.1
4	200	0	0.025
5	200	0	0

Color

Sample	At Start	3 hours later	5 hours later	1 day later
1				
2				
3				
4				
5				