1.0 Purpose

The purpose of this procedure is to describe how to determine the particle size of dry product.

2.0 Scope

This procedure applies to dry product samples.

3.0 Responsibility

Lab Associate is responsible for performing this procedure.

4.0 Safety Considerations

Appropriate PPE is to be worn in the laboratory.

Safety is a condition of employment. Employees are not authorized to work in an unsafe manner and are prohibited from harming the environment of the facility or the community.

5.0 Materials/Equipment

- Dry Product Sample
- Weighing Balance
- Weigh Papers
- Computer – Gateway 2000
- Particle Size Analyzer – Horiba LA-910
- Printer – Desk Jet 660C
- Timer
- Flosperse 9000
- 2 - 3ml Droppers
- 500ml Beaker of water
- 25 ml Graduated Cylinder
- 50 ml Beaker
- Glass Stir Rod
- Supply of Isopropyl Alchohol
- 1000ml Graduated Cylinder – Catch Tube

6.0 Procedure

1. Place a weigh paper on the weighing balance and tare to zero.
2. Weigh out 1.00 gram of the dry product sample.
3. Pour the sample into a 50 ml beaker.
4. Using the 25 ml graduated cylinder measure 20 ml of Isopropyl Alcohol.
5. Pour the alcohol into the 50 ml beaker along with the dry sample.
6. Using the glass stir rod, stir the alcohol and the sample.
7. Turn on the computer, monitor, Horiba, and printer.
8. Press ESC to boot computer.
9. Double click on Horiba LA shortcut.
10. Double click on Measure.
11. In liquid measure program click on the MEAS button.
12. Fill the sample chamber of the Horiba with water to the top line.
13. Start the agitation and circulation. To do this click on the agitation icon and circulation icon. The setting for agitation and circulation should be at 3.
14. Add 5 drops of Flosperse 9000 to the sample chamber and wait 45 seconds.
15. After 45 seconds click on the BLANK button on the left side of the screen. The message “In Measuring” should pop up at top of screen.
16. Once the “In Measuring” message goes away the system is blanked. Turn off the circulation pump.
17. Add 4 drops of the dry sample to the sample chamber.
18. Start the ultrasonic. To do this click on the ultrasonic icon. The setting for the ultrasonic should be at 60. Once you start the ultrasonic the 60 should start counting down.
19. Once the ultrasonic has finished, turn the circulation pump back on and wait for 30 seconds.

20. After 30 seconds click on MEASURE button on the left side of the screen. The message "In Measuring" should pop up at the top of the screen. This step will produce the particle size of the sample.
21. The next screen should be your analysis.
22. Record the Median reading on the appropriate form.
23. In the top right corner will be the PRINT button. Click on the print button.
24. Label the print out with sample id and date and retain for records.
25. Click on the MEAS button. This should take you back to the measure screen.
26. Next drain the sample chamber. To do this click on the ALL button located on the left side of screen underneath the DRAIN title.
27. Once the Horiba has drained, the circulation pump and agitator should stop.
28. Next clean the sample chamber. To do this, circulate fresh water through the system.
29. Refill the sample cup to the second line with water.
30. Turn on the agitator and circulation pump. (Step 8 above)
31. Allow to run for 1 minute.
32. Drain the machine as done previously. (Step 21 above)
33. Empty the catch tube located in floor beneath the Horiba.
34. Close out program and shut down computer.
35. Turn off Horiba, computer, monitor, and printer.

7.0 Reference Documents

N/A

8.0 Change Information

New Document