

Glass Centrifuge Tube for MPI

Fluo Powder 1234,

Non Fluo Powder 1229

Description of Centrifuge Tube:

- Glass Centrifuge Tube is a pear shaped glass tube.
- The glass is colorless i.e. transparent. The bottom portion of centrifuge tube is a narrow glass tube where solid powder particles settle down and their volume can be measured.
- Total capacity of Centrifuge Tube is 100ml.
- The Centrifuge Tube has marking of 100ml at the top.
- Marking for measurement of settling volume of solid particles is at bottom.

Marking for Fluo Powder, Prod No. 1234, is 0 to 1ml.

Marking for non Fluo Powder, Prod No. 1229, is 0 to 2.5 ml.

How to Use Centrifuge Tube:

- The suspension liquid in MPI, either water suspension or oil suspension, can be checked using the Centrifuge Tube.
- For checking settling volume and other parameters, collect 100ml suspension liquid 'sample' containing powder particles.
- The procedure for collecting 'sample', involves, stirring the 'bath' i.e. suspension medium containing powders, for 5 to 10 minutes to ensure that the powder particles are thoroughly mixed / suspended in the 'bath'.
- The 'bath' is poured into Centrifuge tube, up to the marking of 100ml, correctly and carefully.
- Removal of excess quantity of 'bath' may lead to incorrect measurement of 'settling volume', because powder particles being heavy, start settling immediately. The excess quantity of 'bath' removed may contain lesser powder particles.
- Once the 100ml 'bath' is collected. It is stirred by closing the top portion of centrifuge tube. The stirring is to ensure that no particles are settled at the bottom of the Centrifuge Tube.
- Once the stirring is complete the tube is placed on the stand, which is provided with the Centrifuge Tube. The tube is placed on the stand for 30 or 60 minutes, as per recommendation of standard. Settling of powder particles at the bottom will complete within the time limit recommended.

Inspection to conclude usability of MPI powder:

- Once the particles are settled at the bottom, following procedure is conducted to judge utility of the 'bath'.
- The settling volume of the powder that is at the bottom indicates whether the 'bath' contains sufficient quantity of MPI powders in the 'bath'.
- The material settled at the bottom may or may not contain 'dirt', which are either magnetic or non-magnetic particles and which will be either fluorescent or non-fluorescent. The presence of 'dirt' should be judged by using White light and UVA light and the reason for its presence should be found out.
- The top portion of the settled liquid should be clean and colorless similar to suspension liquid. Presence of non-settling dirt, change in the color of suspension liquid can be judged by using white light and UVA light.
- The presence of non-settling dirt and change in the color of suspension liquid, can lead to non-correct indication of cracks. A judgment should be made about the quality of 'suspension liquid' and same should be replaced or continued for use.
- If the suspension liquid needs replacement. The entire 'bath' including MPI powder should be discarded. The tank should be thoroughly cleaned. Top portion of the equipment i.e. Tray at the top, head-stock and tail-stock and similar related portion should be thoroughly cleaned. 'New' bath should be made after the cleaning.
- Lesser settling volume of powder particles recommends adding more quantity of powder and the volume should be checked once again, before starting the use.
- If the settling volume of powder particles is higher than the volume recommended, suspension liquid can be added to the 'bath', if the 'bath' can accommodate more volume. Re-checking is essential after such changes.
- If adding more quantity of suspension liquid is not possible, it is better to empty the tank and prepare a 'new' bath.