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Comparison of Precipitation State between Swinging Bucket Rotor and Fixed Angle Rotor

Rotors for high-speed refrigerated centrifuge : R8S swinging bucket rotor vs. R15A fixed angle rotor

Swinging bucket rotors are more suited for sedimentation than fixed angle rotors and particularly advantageous under a very small amount of precipitation. In contrast, TC tubes have a conical bottom where deposits tend to accumulate after centrifuging.

The following reports on our observation of differences in precipitation state between the swinging bucket rotor and fixed angle rotor by using a 50TC conical tube.

Description

1. Centrifuging conditions

Centrifuge : High-speed refrigerated centrifuge CR-GⅢ series

Rotor : R8S swinging bucket rotor (4-place type)

R15A fixed angle rotor (10-place type)

Centrifuging tube : 50TC conical tube

Rotation speed : 8,000 rpm (R8S swinging bucket rotor)

8,910 rpm (R15A fixed angle rotor)

Maximum RCF : 11,500 x g

2. Method of experimentation

Dispense 40 ml of bentonite suspension into a 50TC conical tube.

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Centrifuge the R8S swinging bucket rotor at 8,000 rpm and the R15A fixed angle rotor at 8,910 rpm for 5 minutes each.

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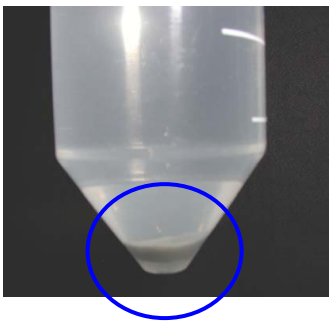
Observe the state of precipitation after centrifugation and take photos of the precipitation.

Results

The findings below suggest that swinging bucket rotors are more suited for sedimentation than fixed angle rotors.

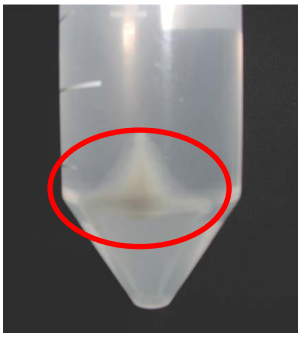
R8S swinging bucket rotor



The precipitation accumulate at the bottom of the tube and are easy to collect.

R15A fixed angle rotor

The precipitation slip from the tube walls.



The precipitation get caught on the tube's angular sections.

If you have any inquiry of this application or products, please contact us through our web site.
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