

SOP **USE OF CENTRIFUGES**

Purdue University
Applicable rooms:

Physics Department
All PRIME Lab areas

PRIME Lab

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Revised by:

Date Created
Revised:

3/24/2014
N/A

INTRODUCTION

Rotors on high-speed centrifuge and ultracentrifuge units are subject to mechanical stress that can result in rotor failure. Improper loading and balancing of rotors can also cause failure. For these reasons, centrifuges must be properly used and maintained.

HAZARDS

Rotating parts can cause severe hand injuries
Rotor failures can send high velocity parts and chemicals flying from the rotor
Unbalanced loads can cause permanent damage to the centrifuge
Spilled chemicals can cause deterioration of metal surfaces

PROCEDURES

- 1 Read and understand the operating manual provided by the manufacturer before using equipment.
- 2 Use only rotors and accessories made for the specific model of centrifuge being used
- 3 Use tubes that are rated for the speed being used
 Keep rotors Clean
- 4 Wash only with mild detergents and rinse with RO or deionized water
 Use only soft brushes for cleaning
- 5 Inspect Rotors and accessories prior to use
 Do not use a damaged rotor
- 6 Balance rotor as required by manufacturers instructions (0.5 g)
- 7 Observe limitations on sample density and filling levels
- 8 Make sure rotor and accessories are properly attached (especially mis-hooked buckets)
- 9 Do not exceed the maximum rated speed of the rotor or other components
- 10 Do not open the lid until the rotor has come to a complete stop

MINIMUM PPE REQUIREMENTS

- 1 Skin cover to throat/wrists/ankles including required lab coat
- 2 Closed shoes
- 3 Chemical resistant gloves appropriate for the material used
- 4 Eye protection - must also agree with materials being centrifuged
 Volume < 30 mL Safety glasses with side shields
 Volume > 30 mL ≤ 1 L Splash goggles or safety glasses with side shields and face shield
- 5 Any additional requirements of hazard certification in room where work is done

SOP USE OF CENTRIFUGES

STORAGE

- 1 Keep dry
- 2 Clean any contamination from rotors or accessories immediately after use

DISPOSAL

- 1 There are no disposal requirements unless the unit is contaminated with hazardous materials

EMERGENCY PROCEDURES

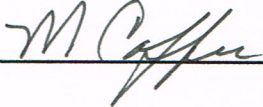
- 1 If the rotor is unbalanced, shut unit off immediately
- 2 Emergency procedures for leaking chemicals should follow the procedure for the chemicals being used.
- 3 All injuries must be treated as specified in section 6.7 of the CHP

APPROVAL

PI

Marc Caffee

Signature:



Date:

