

Protocol: Care and Maintenance of Ultracentrifuge and Rotors

Protocol Notes:¹

- Proper use and maintenance of the ultracentrifuge and rotors
- Refer to the manuals for further details. All are available both online (see References) and also in the folder by the ultracentrifuge itself.

Materials:

1. Beckman Type 45 Ti rotor, serial# 11U 4663 (fixed angle rotor, made in 2011)
2. Beckman SW 41 Ti rotor, serial# 97U 10110 (swing-bucket rotor)
3. Beckman SW 41 Ti 104.9 buckets (6)
4. Beckman Polyallomer Centrifuge Tubes, 14 x 89 mm, Lot# Z11208SCA, Reorder# 331372
5. Beckman Spinkote lubricant, Cat# 306812
6. Beckman Vacuum Grease Silicone, Cat# 335148
7. Beckman Solution 555 (detergent), diluted 1:10
 - Cat# 339555
8. Beckman special cleaning brushes
 - Cat# 339558 as part of the Rotor Cleaning Kit
9. Beckman Coulter Centrifuge Tubes, FIX ME
 - Lot# , Reorder#
10. Beckman Optima L-70k Ultracentrifuge

Methods:

Maintenance:

1. Monthly check the rotor, particularly inside cavities, for rough spots, pitting, powder deposits or discoloration.
 - If any of this is present, *do not use the rotor*

¹ Author: Aric Gregson 2014-08-01

- If any of this is present, contact our Beckman-Coulter service representative and notify Rita Kern
- 2. Prior to each use, or at least every other use, lubricate metal threads in the rotor with thin, even coat of Spinkote lubricant.
 - Threads will be damaged if not kept consistently lubricated
- 3. Regularly apply silicone vacuum grease to the O-rings. Over-greasing can also cause leaking.
- 4. Replace all O-rings on the rotor every six months, or more frequently if evidence of damage.
 - Note in the maintenance book for the ultracentrifuge when O-rings are replaced.
- 5. Regularly inspect the overspeed disk. If scratched, replace it as described in the manual.

Cleaning

1. Remove all O-rings prior to washing
2. Wash rotor at least monthly using Beckman Solution 555 diluted 1:10 and the special plastic brushes
 - Do *not* soak overnight
3. Thoroughly rinse the now cleaned rotor and all components (excepting O-rings)
4. Air-dry rotor and lid upside down.
5. Apply thin, even coat of silicone vacuum grease to the lid O-ring before replacing the O-ring into the groove of the lid.
6. Apply thin, even coat of silicone vacuum grease to the handle O-ring before reassembly.

Storage

1. All rotors should be stored in a dry environment with the lids removed to allow air circulation and prevent moisture damage.

Sterilization

1. Should not be necessary under normal operations.
2. Can be autoclaved at 121 degree C for no more than 1 hour.

- Remove the lid and all O-rings.
 - Place the rotor, lid and spacers in the autoclave upside down.
3. Ethanol 70% or hydrogen peroxide 6% can be used on all rotor components including those made of plastic.
- Bleach will cause discoloration, prefer not use.

References:

1. File ultracentrifugeUpdate.pdf This is hanging on the wall by the ultracentrifuge.
2. Beckman Coulter [Type 45 Ti Rotor Manual](#)
3. Beckman Coulter [SW 41 Ti Rotor Manual](#)
4. Beckman [Optima L-70k Ultracentrifuge Manual](#)
5. Beckman Coulter Rotors and Tubes [Instructions for Use](#)