

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 Spinkote lubricant, Cat# 306812
5. Beckman Vacuum Grease Silicone, Cat# 335148
6. Beckman Solution 555 (detergent), diluted 1:10
 - Cat# 339555
7. Beckman special cleaning brushes
 - Cat# 339558 as part of the Rotor Cleaning Kit
8. 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*
 - 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

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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](#)