Centrifuges
### Centrifuges

<table>
<thead>
<tr>
<th>Types</th>
<th>Speeds (rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microcentrifuges</td>
<td>~15,000</td>
</tr>
<tr>
<td>Low/high speed</td>
<td>2,000 – 20,000</td>
</tr>
<tr>
<td>Ultracentrifuges</td>
<td>~ 120,000</td>
</tr>
</tbody>
</table>
Centrifuges

Hazards

- Mechanical failure of machine
- Lab equipment failure (tubes etc.)
- Aerosol generation
- Operator error
Centrifuges - Safety Tip

- Always remember to balance the centrifuge
  - The tubes or bottle should be the exact same weight.
1. Check tubes for cracks/chips.
2. Use matched sets of tubes, buckets etc.
3. Tightly seal all tubes and safety cups.
4. Ensure that rotor is locked to spindle and bucket seated.
5. Close lid during operation.
6. Allow to come to complete stop before opening.
Centrifuges
Safe Operation

- Use safety cups whenever possible
- Disinfect weekly and after all spills or breakage's
- Lubricate O-rings and rotor threads weekly
- Do not use rotors that have been dropped
- Contact your centrifuge rep for specific information