A qualified user should be able to:
- Identify personal safety hazards associated with the tool and what precautions are taken to prevent an accident from occurring.
- Identify hazards to the tool and what precautions are taken to prevent an accident from occurring.
- Operate the tool safely and proficiently.
- Recover from simple errors.
- Demonstrate knowledge of the processes performed with the tool.

**BRANSON L3200 ASHER**

**Personal Safety Hazards**
- **Mechanical Hazards** – Drive assemblies have sufficient power to cause injury. Keep hands, fingers, clothing and tools clear of moving parts.
- **RF Radiation** – This equipment can produce EM radiation when improperly operated. Do not operate the tool if any of the shielding/cover are not in place.
- **High Temperature** – The asher is operated at high temperatures. Allow wafers to cool before handling.

**Hazards to the Tool**
- **Misaligning Wafer Cassette** – Misaligning the wafer cassette will cause the robotic arm to shatter wafers when attempting transfers.
- If a wafer “hangs up” during any point of the ashing sequence, do not attempt to manually clear the wafer (with one’s hand or with the robotics). Contact the equipment technician for assistance.
- When initiating an ash, if an error message appears indicating that a wafer is present in the chamber, do not attempt to manually remove the wafer. Contact the equipment technician for assistance.

**Operating Tool**
- A qualified user should be able to:
  - Load wafers
  - Select and execute a job properly
  - Terminate a job
- Reservations – If not present at stated start time, tool is reserved for 15 minutes and is then considered open for general use.

**Simple Errors**.
- Mechanical pump not turned on.

**Processes**
- Certified users should:
  - Be familiar with the operation sequence (pump down, oxygen flow, RF initiation, end).
  - Understand the nature of the chemical reaction occurring.
**Appropriate Uses**

- Only 100 & 150mm wafers are supported
- No gold or copper allowed in the tool.
- Al, Ta, W, Mo are allowed.