

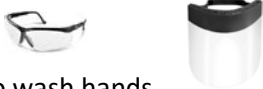




# CENTRIFUGATION SAFETY

## PRECAUTIONS AND PRACTICES

<b>Hazards</b>	<b>Potential Hazards</b>	<ul style="list-style-type: none"> <li>• Potential exposure to bloodborne pathogens, or other human pathogens including but not limited to, Hepatitis B, Hepatitis C, and Human Immunodeficiency Virus (HIV). <b>Refer to Universal/Standards Precautions for Handling Human Specimens SOP.</b></li> <li>• <u>Routes of exposure:</u> Aerosols, percutaneous (non-intact skin, injections, punctures, lacerations) or splash/splatter to mucous membranes (eyes, nose, mouth).</li> <li>• Crush or cut injuries could occur when handling heavy or sharp components.</li> </ul>
	<b>Work Practice Controls</b>	<ul style="list-style-type: none"> <li>• Consider using safety equipment such as biological safety cabinets (BSCs), centrifuge safety cups, and sealed rotors to protect from exposure to aerosols and droplets.</li> <li>• Refer to the operator's manual for instructions for use (IFU) and routine maintenance requirements.</li> <li>• Use caution and care when inserting or removing heavy rotors and buckets.</li> <li>• Keep fingers on the outside of the lid and base when closing heavy lid.</li> <li>• A biohazard symbol (sticker) should be placed on the centrifuge. </li> <li>• Use centrifuge on a level surface.</li> <li>• Perform a visual inspection prior to each use (note unusual cracks, missing o-ring on rotors or cups, irregularities or wear). Repair/replace as necessary.</li> <li>• Must wear Personal Protective Equipment (PPE) during operations. </li> <li>• Open containers in a BSC, or behind a splash shield, if available.</li> <li>• Verify proper loading of specimens to maintain balance.</li> <li>• After starting, listen for unusual noises or vibrations until programmed speed is reached.</li> <li>• <b>If unusual noises occur, stop centrifuge and wait 15 minutes before opening. Re-balance centrifuge. If there are broken tubes, follow spill procedures.</b></li> </ul>
	<b>Personal Protective Equipment (PPE)</b>	<ul style="list-style-type: none"> <li>• Lab coat (or gown/tyvek, etc.) and gloves required. Mucous membrane protection (e.g. safety glasses or face shield) must be used if there's a potential for splash or spray such as when opening tubes and cleaning up spills. </li> <li>• Remove PPE and wash hands before leaving the work area.</li> <li>• Use hand sanitizer if sink is not nearby, then proceed to nearest sink to wash hands.</li> </ul>
<b>Other</b>	<b>Cleaning &amp; Disinfection</b>	<ul style="list-style-type: none"> <li>• Perform routine decontamination of interior surfaces using an appropriate disinfectant. Immediate decontamination is required when visible contamination is noted.</li> <li>• Refer to the label for dilution and contact time.</li> </ul>
	<b>Spills &amp; Broken Centrifuge Tubes</b>	<ul style="list-style-type: none"> <li>• Wear full PPE, including a lab coat, disposable gloves, and full face protection.</li> <li>• Use mechanical device (forceps/tongs) to pick up sharps. Do not use hands.</li> <li>• Place sharps/broken tubes in biohazard sharps container/needle box.</li> <li>• Unless otherwise directed in equipment manual, clean the interior with soap and water to remove organic material. If glass vials were broken, used swabs or forceps to clean, not hands.</li> <li>• Follow with disinfectant. Contact time for disinfectant according EPA list: <a href="https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants">https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants</a>.</li> <li>• Place all clean up materials in biohazard waste for disposal according to Medical Waste Policy: <a href="https://www.safety.duke.edu/sites/default/files/VII_3MedWaste.pdf">https://www.safety.duke.edu/sites/default/files/VII_3MedWaste.pdf</a>.</li> <li>• Remove PPE and wash hands before leaving the work area.</li> <li>• Refer to the Emergency Response Guide posted in your work area for more information.</li> </ul>
	<b>Exposures</b>	<ul style="list-style-type: none"> <li>• Remove contaminated clothing.</li> <li>• Wash skin exposures with soap and water for 1 minute. For eye exposures, flood eyes with water from eyewash station or sink.</li> <li>• Obtain medical attention, if necessary.</li> <li>• <b>Report</b> to EOHW by dialing the BBF Hotline at 919-684-8115.</li> <li>• Complete the "Report a Work-Related Accident, Injury, or Illness" found at <a href="https://hr.duke.edu/wellness/workers-compensation">https://hr.duke.edu/wellness/workers-compensation</a>.</li> </ul>
	<b>Training</b>	<ul style="list-style-type: none"> <li>• Complete minimum safety training (e.g. Bloodborne pathogens, Lab Safety, etc.) requirements for your job. Ask OESO and your supervisor if you are unsure.</li> <li>• Refer to Universal/Standard Precautions for Handling Human Specimens SOP.</li> <li>• All personnel shall read and fully adhere to this SOP.</li> </ul>
	<b>Questions</b>	Contact OESO - Laboratory Safety Division at 919-684-8822 or <a href="mailto:labsafety@dm.duke.edu">labsafety@dm.duke.edu</a> .