

<b>Effective: 2/23/2018</b>	<b>JOB SAFETY ANALYSIS</b>	DEPT: <b>CNS</b>	LOCATION: <b>Center for Neuroscience</b>	JOB TYPE: <b>Shop Worker</b>
JOB FUNCTION	POTENTIAL HEALTH OR INJURY HAZARDS	SAFE PRACTICE, OR EQUIPMENT		PERSONAL PROTECTIVE EQUIPMENT (PPE)

Instructions for use of all tools- Preparation	<ul style="list-style-type: none"> <li>• Trips/Falls</li> <li>• Flying Parts</li> <li>• Bodily Injury</li> </ul>	<ul style="list-style-type: none"> <li>• Clean work area before starting.</li> <li>• Make sure area is well lit.</li> <li>• Secure and tighten all parts before starting.</li> <li>• Use proper tool accessories.</li> <li>• Check and replace any broken or damaged parts.</li> </ul>	<ul style="list-style-type: none"> <li>• Long pants, Non-slip, Closed-Toe Shoes</li> <li>• Dust Mask</li> <li>• Goggles/Safety Glasses</li> <li>• Remove jewelry from hands and neck, tie back hair, roll up long sleeves and secure any other loose clothing that could potentially get caught in moving equipment.</li> </ul>
Instructions for use of all tools- Use	<ul style="list-style-type: none"> <li>• Fires or Electrical Shocks</li> <li>• Tangled Parts</li> <li>• Bodily Injury</li> <li>• Eye Injury</li> <li>• Back Strain</li> </ul>	<ul style="list-style-type: none"> <li>• Don't operate tools in explosive atmospheres.</li> <li>• Grounded tools must be plugged into properly installed grounded outlets.</li> <li>• Do not force polarized plugs into an outlet if it won't fit.</li> <li>• Avoid body contact with grounded surfaces.</li> <li>• Don't expose power tools to rain or wet conditions.</li> <li>• Disconnect the plug from power source before making any adjustments or changing accessories.</li> <li>• Do not wear loose clothing or jewelry.</li> <li>• Tie long hair.</li> <li>• Wear goggles or any eye protection.</li> <li>• Do not overreach.</li> <li>• Keep feet shoulder length apart.</li> </ul>	<ul style="list-style-type: none"> <li>• Long pants, Non-slip, Closed-Toe Shoes</li> <li>• Dust Mask</li> <li>• Goggles/Safety Glasses</li> <li>• Remove jewelry from hands and neck, tie back hair, roll up long sleeves and secure any other loose clothing that could potentially get caught in moving equipment.</li> </ul>

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Instructions for use of all tools- After Use	<ul style="list-style-type: none"> <li>• Bodily Injury</li> <li>• Electrical Shocks</li> </ul>	<ul style="list-style-type: none"> <li>• Keep sharp cutting edges clean.</li> <li>• Lubricate tool, if necessary.</li> <li>• Use air compression to clean tool, if necessary.</li> <li>• Do not store tools in an area where water can enter.</li> </ul>		<ul style="list-style-type: none"> <li>• Long pants, Non-slip, Closed-Toe Shoes</li> <li>• Dust Mask</li> <li>• Goggles/Safety Glasses</li> <li>• Remove jewelry from hands and neck, tie back hair, roll up long sleeves and secure any other loose clothing that could potentially get caught in moving equipment.</li> </ul>

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<p>General machining and metal fabrication processes using stationary machine tools; (lathe, mill, drill press, and grinders)</p>	<ul style="list-style-type: none"> <li>Cuts, contusions, lacerations, from contact with point of operation or associated flying materials from work part.</li> <li>Hearing damage from audible noise above 90dB at a sustained level:</li> </ul>	<table border="1"> <thead> <tr> <th>Hours per day</th> <th>Sound level</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>90dB</td> </tr> <tr> <td>6</td> <td>92dB</td> </tr> <tr> <td>4</td> <td>95dB</td> </tr> <tr> <td>3</td> <td>97dB</td> </tr> <tr> <td>2</td> <td>100dB</td> </tr> <tr> <td>1.5</td> <td>102dB</td> </tr> <tr> <td>1</td> <td>105dB</td> </tr> <tr> <td>.5</td> <td>110dB</td> </tr> <tr> <td>.25 or less</td> <td>115dB</td> </tr> </tbody> </table>	Hours per day	Sound level	8	90dB	6	92dB	4	95dB	3	97dB	2	100dB	1.5	102dB	1	105dB	.5	110dB	.25 or less	115dB	<ul style="list-style-type: none"> <li>Students, staff, and faculty using the machine shop must have prior authorization and complete the CNS machine shop safety online training. Go to this link for training, <a href="https://cnssafety.ucdavis.edu/machine-shop-safety">https://cnssafety.ucdavis.edu/machine-shop-safety</a></li> <li>Use tools according to manufacturer's recommendation.</li> <li>Understand use of tools and procedures before commencing work.</li> <li>Use correct tool for the job and ensure that tools are in good condition before starting work.</li> <li>Report any defect tool or machine to Safety Manager.</li> <li>Use the guarding systems and shields.</li> <li>Do not defeat guarding systems</li> </ul>	<ul style="list-style-type: none"> <li>Long pants, Non-slip, Closed-Toe Shoes</li> <li>Dust Mask</li> <li>Goggles/Safety Glasses</li> <li>Remove jewelry from hands and neck, tie back hair, roll up long sleeves and secure any other loose clothing that could potentially get caught in moving equipment.</li> <li>Wear hearing protection.</li> </ul>
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Grinding	<ul style="list-style-type: none"> <li>• Metal dust, silica dust</li> <li>• Noise</li> </ul>	<ul style="list-style-type: none"> <li>• Use tools according to manufacturer's recommendation.</li> <li>• Understand use of tools and procedures before commencing work.</li> <li>• Use correct tool for the job and ensure that tools are in good condition before starting work.</li> <li>• Report any defect tool or machine to Safety Manager.</li> </ul>	<ul style="list-style-type: none"> <li>• Long pants, Non-slip, Closed-Toe Shoes</li> <li>• Use dust masks or respirators as appropriate.</li> <li>• Goggles/Safety Glasses and Face Shields.</li> <li>• Remove jewelry from hands and neck, tie back hair, roll up long sleeves and secure any other loose clothing that could potentially get caught in moving equipment.</li> <li>• Wear hearing protection.</li> <li>• Use ear protection</li> </ul>
Exposure to cutting fluid and fumes	<ul style="list-style-type: none"> <li>• Dermatitis</li> <li>• Inhalation hazard</li> </ul>	<ul style="list-style-type: none"> <li>• Limit skin exposure and wash affected area with soap and water.</li> <li>• Use ventilation when operation generates fumes.</li> </ul>	<ul style="list-style-type: none"> <li>• May require use of a respirator. Please visit the informational link on the respirator fit program at <a href="http://safetyservices.ucdavis.edu/article/respiratory-protection-program">http://safetyservices.ucdavis.edu/article/respiratory-protection-program</a></li> </ul>
Use of oils and lubricants	<ul style="list-style-type: none"> <li>• Spontaneous combustion from wiping cloths saturated with oil</li> <li>• Slip hazard from spilled oil and cutting fluids</li> </ul>	<ul style="list-style-type: none"> <li>• Dispose of oily cloths in safety can.</li> <li>• Keep work area clean.</li> <li>• Keep away from ignition sources.</li> <li>• Keep fire extinguishers up to date.</li> <li>• Store in flammable cabinets</li> </ul>	<ul style="list-style-type: none"> <li>• Consult SDS's for details on recommended PPE.</li> </ul>

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Use of hand tools	<ul style="list-style-type: none"> <li>Cuts, abrasions, contusions from contact with point of operation</li> </ul>	<ul style="list-style-type: none"> <li>Use the proper tool for the job</li> <li>Report unsafe tools to the Facility/Safety Manager</li> </ul>	<ul style="list-style-type: none"> <li>Wear safety glasses and face shields if there is a risk of flying debris.</li> <li>Consult equipment user guides for any other PPE recommendations.</li> </ul>
Hazardous materials	<ul style="list-style-type: none"> <li>Fumes from solvents, paint</li> <li>Fumes and particulates from epoxy composite fabrication</li> </ul>	<ul style="list-style-type: none"> <li>Read and observe information from SDS's.</li> <li>Use adequate ventilation.</li> <li>Keep away from ignition sources.</li> <li>Use approved respirator; training class and medical exam required before use.</li> <li>Keep fire extinguishers up to date.</li> <li>Cover exposed body surfaces when sanding epoxy composites</li> <li>Store in flammable cabinets</li> <li>Dispose waste according to UC Davis Hazardous Waste policies and procedures.</li> </ul>	<ul style="list-style-type: none"> <li>Observe recommended use of PPE from SDS's for chemical being used.</li> <li>Consult Safety Net #50- Guidelines for the Selection of Chemical Resistant Gloves.</li> </ul>