LABORATORY SAFETY SOP SECTION 2 TEMPLATE

This document is used in conjunction with the Laboratory Safety SOP Template.

This document is meant as a plug-and-play tool. If you have the particular equipment you can take this already made document and tailor it. Then input it into the your main Laboratory Safety SOP

Don’t forget to edit the header for your lab.

Anything highlighted in yellow is for guidance to develop this SOP and needs to be deleted when finished.

SECTION 2: MILL / COMPUTER NUMERICAL CONTROL (CNC) MACHINE PROCEDURES

**MILL / CNC MACHINE PROCEDURES:**

* Pre-Operation:
	+ Refer to General Industrial Machine Safety Policy and Manufacturer’s Manual
	+ DO NOT USE without proper hand’s-on-training
	+ Disconnect power if adjusting or installing milling cutter
	+ Use a cloth to handle milling cutter
	+ Use only a milling cutter in good condition and sharp
	+ Rotate spindle by hand to make sure it is clear for cutting
	+ Never use hands to pick-up metal shavings:
	+ Use appropriate tools, brush, rag, etc.
	+ Clean workspace
	+ Clear machine of all loose material or tools
	+ Move worktable as far as possible from cutter while setting up work to avoid hand injury
	+ Use proper lifting technique when milling heavy stock
	+ DO NOT use a feed or cut that is excessively heavy as it may break the cutter and the flying pieces could cause a grave injury
	+ Securely clamp stock
	+ Bolts that are securing the work are clear of the tooling
	+ Ensure all safety guards in place
	+ Know and understand the correct cutting speed you need
* Operation:
	+ Ensure cutter rotates in the correct position
	+ Keep hands, tools, brushes, rags and clothing at least 12 inches away from the moving mill
	+ STOP machine if need to clear out metal shavings
	+ DO NOT rest your hands or lean on the moving table
	+ Always stay near the machine while it is running
	+ DO NOT measure, adjust work, or mount while machine is rotating.
	+ DO NOT operate any levers if you do not know what they do
	+ Do not excessively use oil and create slipping hazards
	+ DO NOT take too heavy a cut or use too rapid a feed
* Post-Operation:
	+ Shutdown machine when finished and wait until completely stopped
	+ BEFORE cleaning or removing work, remove cutting tool to avoid cutting yourself
	+ Use cloth to pick up stock as it could be sharp after milling
	+ Clean machine and area of metal shavings and oils

**REQUIRED TRAINING:**

- BioRaft UTSA Level Safety Training: General Industrial Safety Training for Research Spaces

- Lab Specific Training conducted by PI or competent person

**REQUIRED PPE:**

Safety Goggles

Long Sleeve Shirt

Full Length Pants

Close-Toed Shoes

**HAZARDS and/or RISKS:**

Pinch Points

Pull-in Points

Abrasion

Laceration

Dismemberment

Death (Pull-in hair or loose clothing hazard)

**SPILL and/or EVACUATION PROCEDURES:**

No spill plan needed

No evacuation procedures necessary (medical aid may be needed though)