JOB SAFETY ANALYSIS

Safety Information for the University of California, Berkeley

DEPARTMENT OF MECHANICAL ENGINEERING

OPERATING A LASER CUTTER

TASK	HAZARDS	CONTROLS
1. Assess work area; is it clear of obstructions and slip/trip/fall hazards?	• Slip, trip, or fall	• Clear work area of any obstructions or slip/trip/fall hazards
2. Turn on laser, open air assist valve, turn on filtration unit, confirm proper building exhaust flow at the magnetic gauge attached to the exhaust vent.	• Cutting may create noxious and harmful fumes to operator	• An electrical bypass has been installed that will prevent the machine from operating if the air assist valve has not been opened or if the filtration unit is off or not functioning
3. Open laser lid, load material into machine, then close the lid	• Pinching hazards for hands/fingers • Lacerations to hands/fingers from material	• Keep hands free from pinch points • Deburr material before handling, never run hands along the edge of the material
4. Load cutting files onto the machine and perform all cutting operations necessary	• Noxious and harmful fumes created from cutting certain materials (*E.g. polycarbonate*) • Materials can combust and while being cut and become a fire hazard • Eye injury from laser	• Only cut pre-approved laser grade materials • Never leave the machine unattended when in operation; if flames persist for more than a few seconds, lift lid and expel CO_2 gas onto flame to put it out • Do not look directly at the laser beam while it's cutting

	5. Open laser lid and retrieve material	• Even after cutting has stopped, there may still be noxious and harmful fumes inside the sealed machine • Pinching hazards for hands/fingers • Lacerations to hands/fingers from material	• Wait for a minute after the cut is complete before opening the lid to retrieve the material • Keep hands free from pinch points • Deburr material before handling, never run hands along the edge of the material
	6. Open and inspect drop tray, confirm no accumulation of material drop pieces	• Accumulation of drop pieces of materials may be combustible and start burning uncontrollably	• Clean catch trap, remove drop pieces of material that are present.
	Required Training: Student Shop Safety Training Program Must complete additional training under guidance of a qualified Student Shop Laboratory Mechanician	**Required Personal Protective Equipment (PPE)** Safety glasses	
Other Information:	Universal PLS6.150D Laser Manual		
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