UNC CHARLOTTE
Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

OPERATING THE FLUME

Location: Smith 103

Required Training: The Water Flume is designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of this apparatus, do not use until proper training and knowledge have been obtained.

Required Personal Protective Equipment (PPE): Safety glasses, non-slip shoes.

Reference Materials: Manufacturer's safety rules and operating instructions

PHOTOS	TASK	HAZARDS	CONTROLS
	Wear clear safety glasses with side shields and if necessary use a dust mask.	Potential water splashes.	• Students are required to provide their own safety glasses. • See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.
	Inspect safety glasses for cracks, scratches or other defects. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect leather gloves and face shield.	Potential water splashes.	• If defects are found report to your laboratory instructor before using.
	Put on PPE	Potential water splashes, water on floor, slips, falls.	• Always wear safety glasses. • Wear non-slip shoes due to potential water on floor.
	Inspect work area, walk around area looking for water spills and ensure adequate lighting.	Slips, trips & falls	• Minimize potential sources of spills. • Tighten all hose connections. • Clean up any spills as they occur.
	Visually inspect the electrical power cord.	Electrical shock	• If the electrical cord is damaged or worn the electrical cord should be unplugged and tagged "Out of Service-Do Not Use". • This should be reported to the laboratory manager immediately. • Electrical cord replacement should only

			be conducted by a factory authorized technician or electrician.
	Ensure the electrical cord is connected to electrical outlet.	Electrical shock, injury	• Caution: Apparatus is moveable. Always disconnect electrical cord before moving.
	Fill the flume reservoir	Spills.	• Ensure all drain valves are closed. • Ensure that filling hose remains within the open area of the reservoir to avoid spills. • Fill reservoir between ½ to 2/3 full.
	Turn on pump	High volume water flow	• Do not turn pump on until filling of reservoir is complete. • Set pump output valve to minimum setting prior to turning pump on. • Check water flow deflector (return flow to reservoir or open to secondary holding tank) and ensure that the entire flow is captured in the appropriate tank.
	Run experiment.	Spills, high water volume flow	• Monitor all fluid levels and flow rates to avoid overflow spills (especially flume and secondary holding tank). • Always stop pump and allow flume to drain before changing weirs. • After each run always use sump pump to return water from secondary tank back into reservoir.
	Ending experiment		• Stop pump and allow flume to drain. • Open drain(s) on secondary water collection tank and/or reservoir and ensure that water is draining properly. • If draining into floor drain, ensure that the drain is clear and open to avoid backing up onto floor.
	Clean work area and return all PPE to clean, dry storage area.	Injury	• To ensure adequate housekeeping measures to prevent accidents. • Clean up any areas where water may have collected on the floor around the apparatus.

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305
Please visit our website at: http://www.et.uncc.edu\

The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.