



UNC CHARLOTTE

Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

OPERATING A HOT WATER BATH


Location: Smith 134

Required Training: Hot water baths are 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, closed toed shoes, face shield in addition to safety glasses for additional protection from splattering from test materials, tongs

Reference Materials: Manufacturer's safety rules and operating instructions

| PHOTOS | TASK | HAZARDS | CONTROLS |
|---|--|----------------------------------|---|
|  | Wear clear safety glasses with side shields | Splatter and Flying debris | <ul style="list-style-type: none"> 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 damage. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect dust mask or face mask. | Splatter and Flying debris | <ul style="list-style-type: none"> If defects are found report this to your laboratory instructor before using. |
| | Put on all necessary PPE | Flying debris and dust particles | <ul style="list-style-type: none"> Always wear safety glasses. Use an additional face shield if test materials have a tendency to splatter. |
| | Visually inspect the electrical power cord. | Electrical shock | <ul style="list-style-type: none"> 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. |
| | Ensure the electrical cord is connected to electrical outlet. | Electrical shock | <ul style="list-style-type: none"> Caution: Always remember to disconnect the electrical power cord before filling or emptying water baths. |

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| | Inspect work area, walk around water bath area looking for debris and ensure adequate space for operation. | Slips, spillage, burn injury | <ul style="list-style-type: none"> Remove any debris that could possibly cause a injury. Keep work space around water baths clear and free from an ignition source. Make sure water baths are located on stable, level work surfaces to prevent spills. |
| | Turn the water bath on by switching the button to the "ON" position and set to desired operating temperature. | Shock and burn injury | <ul style="list-style-type: none"> Allow the water bath to reach desired temperature before inserting test specimens. Never leave a water bath unattended since the water level will decrease due to evaporation. |
| | Placement and removal of test specimen. | Splatter and burn injury | <ul style="list-style-type: none"> Use extreme care when placing test specimens into or removing from a hot water bath. Use tongs to place and remove test specimens. Never insert bare (unprotected) body parts into hot water baths since burns will occur. (Remember water baths could exceed temperatures of 375 deg. F). Never leave a water bath unattended since the water level will decrease due to evaporation. |
| | Turn off water baths by switching the button to "OFF" position | Splatter and burn injury | <ul style="list-style-type: none"> Always turn the power off and unplug from power source when testing is complete or when filling or emptying the water baths. |
| | Clean work area and return all PPE to clean, dry storage area. | Injury | <ul style="list-style-type: none"> To ensure adequate housekeeping measures to prevent accidents. |

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.