SAFE HANDLING OF T-BUTYL LITHIUM AND RELATED REACTIVE COMPOUNDS

We are all saddened by the terrible accident that recently occurred at UCLA, in which a young chemistry researcher was fatally burned in an accident involving an alkyl lithium compound. This type of reagent is extremely hazardous and the potential for a serious accident is great if strict handling procedures are not followed. In conjunction with the Yale Chemistry Department, we have assembled the following steps that must be taken to protect against such a tragic accident occurring here at Yale University.

1. Lab coats and safety glasses must be worn at all times when working with hazardous chemicals in the laboratory. This needs to be enforced by the Principal Investigator and followed by each member of the laboratory.
2. Never work alone when handling highly hazardous chemicals, especially organic lithium reagents. Always let others in the laboratory know when you are working with these solutions.
3. Never work with hazardous chemicals unless there is an eyewash and safety shower nearby. Be sure to know where they are and the procedures to follow in the event of an emergency.
4. Organic lithium compounds cannot be exposed to the atmosphere since they will react spontaneously with moisture in the air. Although purchased in bottles that self-seal, they will degrade after use and should be disposed of as hazardous waste within 1 month of opening.
5. Only purchase the amount that you plan to use for each experiment. Any purchase over 100 ml bottle will need to be authorized by Yale Environmental Health and Safety.
6. Yale EHS highly recommends that you order these reagents from Sigma Aldrich, which has their patented Sure/Seal bottle. Contact us if you desire to use a different vendor for these reagents.
7. Review the safe procedures for handling highly reactive reagents. Everyone working with these compounds should be familiar with the Aldrich technical bulletins AL-134 “Handling Air-Sensitive Reagents” and AL-164 “Handling Pyrophoric Reagents”. These bulletins are available on our website www.yale.edu\oehs.
8. Work inside the fume hood with the horizontal sash positioned in front of you to protect you from any splash that may occur. If your fume hood does not have a horizontal sash, we recommend using a splash guard positioned in front of the bottle when drawing the liquid into the syringe.
9. Go through your inventories and dispose of any opened containers of these reagents that you are not planning on using in the near future.

Please contact your Safety Advisor or Yale Environmental Health and Safety @785-3550 for more information. Additional information on these and other safe chemical handling requirements can also be found in the Yale University Chemical Hygiene Plan.