

SPECIAL FEATURE SECTION: SAFETY OF CHEMICAL PROCESSES 09

Editorial

Unfortunately, accidents have been in the news this year whether in university laboratories or in industry. Anyone reading the chemical press must be concerned about accidents that are preventable, particularly where lives have been lost. Those who log on to the U.S. Chemical Safety Board Web site (www.csb.gov) will be able to watch videos of a dust explosion in a sugar factory as well as a runaway reaction at T2 Laboratories, both of which show the power of systems we work with. These videos are also available on YouTube, so that a wider audience is being reached. Both these incidents, which resulted in loss of life, were caused by hazards that have been known for decades, and both were entirely preventable, if the management had only been knowledgeable and were not so focussed on short-term economy at the expense of safety. But how expensive have these incidents been? Surely safety pays for itself in the long term.

Similarly in a university, UCLA, a student lost her life when an experiment using tertiary-butyl lithium went drastically wrong. It is interesting to read the recent editorial and also the letters columns in a recent *Chemical and Engineering News* 2009 October 5 which follow on from Jyllian Kemsley's earlier article, referred to in the Safety Highlights below. One point that never seems to be raised is that the companies who manufacture this reagent on-scale seem to be able to do it safely, and some of these companies also use it on-scale in further reactions, so procedures for safe handling and reaction do exist.

Usually, I find companies who make hazardous reagents only too willing to help users with handling precautions and safety, if only they are asked. Many produce excellent booklets, but these do not seem to be available in universities, despite often now being online. A quick (less than one minute) Google search for handling precautions for organolithium compounds located an excellent review article (*Chemical Health and Safety* 2002, 9 (3), 6–11), but I wonder how many students handling alkyl lithiums will have read it, or how many professors, for that matter.

But when hazardous experiments go wrong, it does not have to be a disaster. In the above case, timely use of a safety shower would probably have saved the student's life, but no one used it. Again, the alleged lack of safety education may have been the cause of this omission.

Not only do these accidents cost lives, but they ruin the reputation of the chemical industry and chemical community, even though most practitioners operate safe systems routinely. Safety education should begin in the schools and particularly the universities. Some countries, particularly in Europe, are well advanced in this respect; others need to show a vast improvement.

Trevor Laird
Editor

OP900267D