Editorial

Safety Special Section Editorial

Safety of chemical and other processes should be firmly in our minds from the recent incidents in both industry and academic laboratories. Whereas in industry, safety training of laboratory workers in chemical laboratories is routine, in the university environment there is a lot more that could be done to prevent accidents. In the case of the Texas Tech incident at Lubbock in January, a student was seriously injured whilst scaling up (without his supervisor's knowledge, it is alleged) an experiment involving nickel hydrazine perchlorate. Of course the hazards of this highly energetic material are well-known in the literature, so one will be interested to see the conclusions of the investigation as to whether there were inadequacies in the level of supervision or instruction to the student. The Chemical Safety and Hazard Investigation Board (CSB), which normally investigates only industrial incidents, has decided to set a precedent and look into an academic accident for the first time. Their recommendations will make fascinating reading for both industrial and academic scientists.

This explosion brings back unhappy memories of an incident at ICI in the 1970s when I was working on novel organic conductors, and a colleague prepared less than a gram of an organic salt as a perchlorate. He left it in the desiccator to dry overnight. When he returned, the desicccator was no longer there, having been destroyed by the force of the explosion of the dry perchlorate salt, which also blew out a couple of windows. Fortunately, the laboratory was empty at the time. This incident forced ICI to rethink its guidelines on the use of perchlorates even on the gram scale.

If you read the literature on perchlorates you would not be surprised by the power of this explosion in the Texas Tech incident, but still chemists who should know better are not reading the hazard literature before they embark on experiments. In the U.K. the system of risk assessment of experiments prior to beginning experimental work, which operates in academia as well as in industry, prompts the worker/supervisor to think again about potential hazards and about what might go wrong, and, though bureaucratic, does help to prevent accidents. Maybe the CSB will recommend a similar system in U.S. universities.

To assist in safety awareness, OPRD publishes this special section in the last issue of each year. Of interest to both academic and industrial chemists is the Safety Highlights, a review of the last year's literature. Though not comprehensive, it does cover the essentials of what has been published in 2009/2010. New papers describing science in which there is a safety element then follow the highlights. I thank all who contributed to this special section, especially Paul Vogt, Richard Barnhart, and Michael Ironside who wrote the highlights. For next year we would welcome a volunteer to assist with compiling these highlights since one of our contributors has retired.

Trevor Laird
Editor, OPRD

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