Learning by Accident: It Happened in Ontario

Learning by Accident is an ongoing *Crucible* feature, in which real-life lab accidents or incidents are recounted and explained. The goal is to highlight the consequence of ignoring safety rules so that science educators will be further encouraged to become knowledgeable, and to take appropriate action, in areas of safety that affect their daily activities in the science classroom. Submissions are encouraged. Anonymity will be guaranteed. Please send written descriptions to Ian Mackellar, STAO Safety Committee Past-Chair, Box 191, MAITLAND, ON K0E 1P0, or email: **ian_mackellar@stao.org**

The story told below is about a student on workplace assignment named Sean Kells. He died on November 18, 1994. Since Sean's death, his family has been active trying to increase health and safety awareness for young people. It can't bring Sean back, but they hope they can help prevent other deaths and injuries among young people

It was his third day on the job, and a new part-time student worker was asked to pour a chemical product from a drum which was not marked or labelled. While he was pouring the liquid, the drum exploded and the student received third degree burns to 90% of his body. He was rushed to the hospital but he died the next day.

What the student worker didn't know:

- The chemical contained a hazardous material called toluene
- Toluene can explode very easily. In this case, it exploded because of the static electricity charge that was created when he poured the material from the drum.

Comments from the STAO Safety Committee

ALL courses in *The Ontario Curriculum, Grades 9 and 10: Science and Technology,1999 and in The Ontario Curriculum, Grades 11 and 12: Science and Technology,2000* include the general expectation that students will:

"demonstrate an understanding of safe laboratory practices by selecting and applying appro- priate techniques for handling, storing, and disposing of laboratory materials (e.g., safely disposing of organic solutions; correctly interpreting Workplace Hazardous Materials Information System [WHMIS] symbols), and using appropriate personal protection (e.g., wearing safety goggles)."

In addition to fulfilling this expectation, it would be prudent for teachers to advise students entering the workplace to:

- Make sure they get the appropriate training before starting a new job or task. This would include (i) ensuring that they understand the WHMIS labels on each container specific to that workplace and (ii) insisting on being shown how to perform each task safely and initially doing the task with the supervisor present, before they do it on their own.

The *Occupational Health and Safety Act* [section 25(2)(a)] states that an employer shall:

"provide information, instruction and supervision for the protection of workers."

- Check that there is a label on every product. (The law requires that all hazardous products have a label. This requirement is part of the WHMIS system).

- Know their rights and responsibilities.

The *Occupational Health and Safety Act* [section 43(3)(a)] states that a worker can refuse to work if he or she has reason to believe that:

"any equipment, machine, device or thing the worker is to use or operate is likely to endanger himself, herself or another worker."

- MOST IMPORTANTLY, always ask for help if they are not sure if the job they are asked to do is hazardous or not.