

# Learning by Accident

*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 effect their daily activities in the science classroom. Submissions are encouraged. If requested, anonymity will be guaranteed. Please send written descriptions to Ian Mackellar, STAO Safety Committee Chair, Box 191, MAITLAND, ON K0E 1P0*

## Keanu Reeves Got it Right!

In the movie "Chain Reaction," Mr Reeves opened a locked laboratory door by breaking the valve of a well-aimed gas cylinder. Could it be done?

What follows is a real-life report, described in various places over the years. This version is used with permission from the *Journal of Chemical Education*, Vol. 53, No. 6, 1976, p.373; copyright 1976, Division of Chemical Education, Inc.

"Six 220 cubic foot cylinders, part of a fire-extinguishing system, had been moved away from their wall supports to allow painters to complete the painting of the area. While moving them back into position, it was noted that one cylinder was leaking, having been damaged earlier. The painter had the cylinder leaning against his shoulder, and was attempting to scoot it across the floor. At this time, the valve separated from the cylinder, and the man suddenly found himself with a jet-propelled 215 lb piece of steel. He wrestled it to the floor, but was unable to hold it.

The cylinder scooted across the floor,

## « « « By Stella Heenan

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hitting another cylinder, knocking it over, and bending its valve. The cylinder then turned 90° to the right and travelled 20 feet where it struck a painter's scaffold, causing a painter to fall 7 feet to the floor and break his leg. After spinning around several times, the cylinder travelled back to its approximate starting point where it struck a wall.

At this point, the cylinder turned 90° to the left and took off, chasing an electrician in front of it. It crashed into the end wall, 40 feet away, breaking loose four concrete blocks. It turned again 90° to the right, scooted through a door opening, still pursuing the electrician. The electrician ducked into the next door opening, and the cylinder continued its travel in a straight line for another 60 feet, where it fell into a truck well, striking the truck well door. The balance of the cylinder pressure was released as the

cylinder spun harmlessly around in the truck well area."

Whether this leaves you with shock or amusement, hopefully it will compel you to check the anchors of those gas cylinders in your school laboratories. The *Ontario Health and Safety Act and Regulations* refers to the storage of gas cylinders. In particular O. Reg. 851, s.49 states:

A storage cylinder for compressed gas shall:

- a. Have a valve connection that prevents an inadvertent connection that would result in a hazardous mixture of gases;
- b. Be secured in position during transportation, storage or use;
- c. Have the valve protection cap in position when the cylinder is not in use;
- d. When containing acetylene, be in an upright position;
- e. Be protected from physical damage.

Now if only the rest of the science in the movie turned out to be true...



## Contact Lenses *(...continued from page 29)*

Optical	High myopia Irregular astigmatism Scarred or distorted cornea Aphakia Contact lens induced spectacle blur
Eye disease	Keratoconus Aniridia
Cosmetic	Artificial eye Disfigured eye
Other	Contact lens tinted to aid colour discrimination Inability to adapt to changes in space perception when switching between contact lenses and spectacles

**Note:** This table is directed toward a teacher who is discussing contact lenses with a student who has one of these conditions. It is meant to be a guide for the teacher to seek additional advice about what corrective device the student should be using with eye protectors.

