



# Burning of Sulphur

## ««« Submitted by a STAO/APSO member

**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](mailto:ian_mackellar@stao.org)

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*Students were performing a lab involving sulphur. However too many groups causing too much sulphur dioxide to be released in the air resulted in a student having an asthma attack. The groups were told to use a small quantity but most likely used 3-5 times too much sulphur.*

### **Comments from the STAO Safety Committee**

One of the most important things to consider in setting up an experiment is that it should always use the smallest amount of a chemical possible. Of course, students always believe that more is better, so guidance must be given to ensure proper quantities are used. It is usually a good idea either for teachers to prepare samples for students, or you should make sure to specify exact quantities to use. If you are able to detect chemicals by smell, then the exposure limits as laid down by the Occupational Health and Safety Act may well have been exceeded. If lung or eye irritation is induced, the concentrations are almost certainly too high. In addition, proper ventilation is essential. If the lab is not properly vented, do not run the experiment.

Asthma is an increasingly prevalent condition in many areas and it is important that teachers make note of any asthmatic students in their class. Since asthma is so common there is a tendency even among people with the con-

dition to overlook symptoms. Parents and teachers are very careful with students with allergies, making sure they carry their medication at all times. However, we often do not think to ask an asthmatic student if they carry an inhaler. Asthma attacks caused by particulate matter in the air can be life-threatening and asthmatic students should always carry an inhaler in case of attack. Since most attacks are mild, students often do not take the possibility of an attack seriously enough and are lax in their preparations. Asthma attacks may start suddenly or may take a while to develop. A mild asthma attack is a tightness in the chest, possibly with wheezing. Asthma medication should completely remove symptoms within minutes and no further medical attention should be required if the medication is effective. A severe attack is one where a person becomes breathless, and the attack can cause a change in the colour of the sufferer's fingers. Medical help should be sought immediately in such cases, even if the asthma medication seems to cure the symptoms – there may be a second attack. Since there have been changes in the lungs that makes them more sensitive, a second wave may be triggered even days after the first attack. This second attack may be more severe than the first attack and may require hospitalization.

