

## **APPENDIX A**

### **A 1: SAFETY RULES FOR STUDENTS IN THE LABORATORY**

All students of chemistry must recognize that hazardous materials cannot be completely avoided. Chemists must learn to handle all materials in an appropriate fashion. While it is not expected that all students participating in the International Chemistry Olympiad know the hazards of every chemical, the organizers of the competition will assume that all participating students know the basic safety procedures. For example, the organizers will assume that students know that eating, drinking or smoking in the laboratory or tasting a chemical is strictly forbidden.

In addition to the common-sense safety considerations to which students should have been previously exposed, some specific rules, listed below, must also be followed during the Olympiad. If any question arises concerning safety procedures during the practical exam, the student should not hesitate to ask the nearest supervisor for direction.

#### **Rules regarding personal protection**

1. Eye protection must be worn in the laboratories at all times. If the student wears contact lenses, full protection goggles must also be worn. Eye protection will be provided by the host country.
2. A laboratory coat is required. Each student will supply this item for himself/herself.
- 3 Long pants and closed-toed shoes are recommended for individual safety. Long hair and loose clothing should be confined.
4. Pipetting by mouth is strictly forbidden. Each student must be provided with a pipette bulb or pipette filler.

#### **Rules for Handling Materials**

1. Specific instructions for handling hazardous materials will be included by the host country in the procedures of the practical exam. All potentially dangerous materials will be labelled using the international symbols below. Each student is responsible for recognizing these symbols and knowing their meaning (see Appendix B 1, B 2 and B 3).
2. Do not indiscriminately dispose chemicals in the sink. Follow all disposal rules provided by the host country.

### **A 2: SAFETY RULES AND RECOMMENDATIONS FOR THE HOST COUNTRY OF THE INTERNATIONAL CHEMISTRY OLYMPIAD**

Certainly it can be assumed that all students participating in the IChO have at least modest experience with safety laboratory procedures. However, it is the responsibility of the International Jury and the organizing country to be sure that the welfare of the students is carefully considered. Reference to the Safety Rules for Students in the Laboratory will show that the students carry some of the burden for their own safety. Other safety matters will vary from year to year, depending on practical tasks. The organizers of these tasks for the host country are therefore assigned responsibility in the areas listed below. The organizers are advised to carefully test the practical tasks in advance to ensure the safety of the

experiments. This can best be accomplished by having students of ability similar to that of IChO participants carry out the testing.

**Rules for the Host Country** (see also A 1):

1. Emergency first-aid treatment should be available during the practical examination.
2. Students must be informed about the proper methods of handling hazardous materials.
  - a) Specific techniques for handling each hazardous substance should be included in the written instructions of the practical examination.
  - b) All bottles (containers) containing hazardous substances must be appropriately labelled  
using international symbols (see Appendix B 1).
3. Chemical disposal instructions should be provided to the students within the written instructions of the practical examination. Waste collection containers should be used for the chemicals considered dangerous to the environment.
4. The practical tasks should be designed for appropriate (in other words, minimum) quantities of materials.
5. The laboratory facilities should be chosen with the following in mind:
  - a) Each student should not only have adequate space in which to work, but should be in safe distance from other students.
  - b) There should be adequate ventilation in the rooms and a sufficient number of hoods when needed.
  - c) There should be more than one emergency exit for each room.
  - d) Fire extinguishers should be near by.
  - e) Electrical equipment should be situated in an appropriate spot and be of a safe nature.
  - f) There should be appropriate equipment available for spill clean-up.
6. It is recommended that one supervisor be available for every four students in the laboratory to adequately ensure safe conditions.
7. The organizers should follow international guidelines for the use of toxic, hazardous or carcinogenic substances in the IChO.