

STAO/PSO Policy Regarding Minimum Safety Requirements For Demonstrations At Conferences and Workshops

Safety must be foremost in the minds of every presenter at STAO/PSO sponsored events. Every person who does demonstrations should be knowledgeable about the safe handling and disposal of all chemicals and the safe use of all demonstration equipment. Demonstrators should be aware of any hazards associated with the chemicals and/or equipment and plan carefully to provide a safe environment for their audience and themselves.

Demonstrators must:

1. emphasize and demonstrate appropriate safety procedures throughout the presentation.
2. comply with the local fire code and safety rules and regulations.
3. maintain clear egress during the demonstration or workshop and ensure any necessary warning signs are clearly posted.
4. wear eye protection for all chemical demonstrations or when appropriate for other demonstrations.
5. use appropriate gloves when working with cryogenic materials or very hot materials.
6. warn members of the audience to cover their ears whenever a loud explosion is anticipated.
7. use safety shield protection whenever there is the slightest possibility that a container or its contents could explode or implode with sufficient force to cause personal injury to observers.
8. arrange to have a fire extinguisher at hand whenever a flame is being used or produced.
9. secure pressurized gas cylinders by strapping or chaining them in place or by using properly secured supports.
10. plan demonstrations so that harmful quantities of noxious gases such as nitrogen dioxide, sulphur dioxide and hydrogen sulphide do not enter the local air supply by using a properly vented closed system.
11. not use highly toxic substances such as benzene, mercury, carbon tetrachloride and ammonium dichromate.
12. not use acutely dangerous explosive substances such as benzoyl peroxide, diethyl ether and picric acid.
13. ensure that demonstrations involving the use of strobe lights, lasers, UV radiation, IR radiation, X-rays, microwaves or sound sources are all controlled such that the participants and audience are not subjected to any harmful exposures.
14. provide adequate shielding and containment for all radioactive sources and ensure that radioactive isotopes are used in accordance with the regulations of the Atomic Energy Control Board.
15. ensure any lasers used in demonstrations are helium-neon lasers with a maximum output power rating not exceeding 1.0 milliwatt.
16. provide adequate isolation for high voltage circuits such that participants may not come in contact with any high voltage parts of circuits.
17. not taste or encourage participants to taste any non-food substance.
18. not use demonstrations in which parts of the human body are placed in danger such as placing dry ice in the mouth or dipping hands in liquid nitrogen.
19. not use live vertebrate animals in demonstrations for experimental purposes.
20. not use plants with poisonous oils (e.g., poison ivy) or other plants known to be generally toxic to humans.
21. not conduct experiments or demonstrations with human blood/body fluids or other biohazardous materials.
22. provide written procedure, hazard, and disposal information for each demonstration whenever the audience is encouraged to repeat the demonstration.
23. arrange for appropriate waste containers and for the disposal of waste materials hazardous to the environment.

