

PRIOR APPROVAL

NEW LABORATORY AND DEMONSTRATION ACTIVITIES

Approved by NSTA Safety Advisory Board – 31 March 2016

I. New Laboratory Activities and Demonstrations

When introducing a new laboratory activity or demonstration, textbooks, laboratory manuals, and other instructional materials may designate the safety precautions needed for a particular activity. However, total reliance on such publications to provide complete and accurate information is not advisable. Employees should consult additional references, including Safety Data Sheets (SDSs) and the NSTA Safety Portal (<http://www.nsta.org/safety/>), before undertaking an unfamiliar activity. It is essential that a hazard analysis and risk assessment be completed for any new laboratory activity or demonstration; in addition, the teacher must perform the actual activity on their own without students present before it can be considered for inclusion in the curriculum. The essential component of this process is Prior Approval.

II. Considerations for Chemicals

It is a better practice to have a list of acceptable reagents for use in the classroom in your district (Suggested resource: Rehab the Lab – Hazardous Chemicals in Schools: <http://www.hazwastehelp.org/educators/chemlist.aspx>). If a new laboratory activity or demonstration requires the use of a substance that is not on the Acceptable List, the decision to use the chemical needs to be based on the best available knowledge of the hazards and risks of the substance and the availability of proper storage facilities, engineering controls (e.g. fume hood), standard operating procedures, and personal protective equipment.

III. Changes in Procedures for an Activity and Activities Not Recently Performed

In addition, Prior Approval is needed for laboratory activities/demonstrations that have not been performed within the past two years or for laboratory activities/demonstrations where the potential for harm is present; as a result, a hazard analysis and a risk assessment need to be reviewed. Also, a review of laboratory activities/demonstrations should occur where there is an alteration in the procedure due to a change in the amount of substances needed for a particular chemical reaction, or in the conditions under which the experiment is to be conducted, or in the substitution, deletion, or addition of a chemical.

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Procedures for Introducing a New Laboratory Activity or Demonstration

I. Introducing new laboratory activities and demonstrations to the curriculum needs to be a prudent and thoughtful process, particularly when chemicals, biologicals, physicals, and/or new equipment will be used. For the addition of a new laboratory activity or demonstration that requires the use of the above, the following information will need to be reviewed and submitted for prior approval of the activity:

A. New Laboratory Activity or Demonstration

The following information needs to be submitted:

1. A copy of the laboratory activity
2. The applicable SDS sheets
3. The source of the activity (textbook and any related materials, a professional organization, a particular workshop, professional study (coursework), etc.)
4. The foreseeable physical, chemical, and biological hazards
5. Review of the hazards and risks. Your assessment.
6. A short summary –“When I performed the experiment...”
(What happened?)

B. Approval Process

1. A new laboratory activity will be reviewed by the Chemical Hygiene Officer (CHO).* Based on the information provided and/or information from other sources, the CHO will, in writing, approve or not approve the activity. If the activity is not approved, comments will be provided. The CHO should also include recommendations for the improvement of the activity.**
2. The CHO may request the activity be re-written and re-submitted for further review.
3. At the elementary level, the teacher should also consult the district Chemical Hygiene Officer for approval.* In addition, laboratory activities, that involve biologicals, physicals or engineering procedures, should be discussed with the building principal and Science Administrator. If the district does not have a Science Administrator, a secondary teacher, certified in the content area, should be consulted.

* Those districts under the State or Federal OSHA's Occupational Exposure to Hazardous Chemicals in Laboratories Standard or Laboratory Standard (29 CFR 1910.1450) (or state departments adopting the OSHA standard or regulations similar to it) are required under law to have an employer appointed Chemical Hygiene Officer to oversee the Chemical Hygiene Plan's development and implementation. The Laboratory Standard stipulates that the Chemical Hygiene Plan (CHP) requires inclusion of

“The circumstances under which a particular laboratory operation, procedure or activity requires prior approval from the employer or the employer’s designee before being implemented.”

The remaining districts under better professional safety practices need to appoint a CHO or minimally a Chemical Hygiene Committee to deal with these chemical management issues in a professionally responsible way.

****If needed, the school district may choose to develop an appeals process and appoint an Appeals Committee (Chemical Hygiene Committee). An Appeals Committee should consist of the department chair of science or designee, a certified teacher in the particular discipline, and the Chemical Hygiene Officer or designee.**

II. NEW LABORATORY ACTIVITY AND DEMONSTRATION PROPOSAL PRIOR APPROVAL *(TEMPLATE)*

NAME:

DATE:

SCHOOL:

SUBJECT:

GRADE:

1. Title of Laboratory Activity:
2. Source of the Laboratory Activity:
3.
 - a. Chemicals, biologicals, physicals, and new equipment required for the activity:
 - b. Engineering controls, personal protective equipment, and standard operating procedures required for the activity:
4.
 - a. Foreseeable biological, chemical, and/or physical hazards
 - b. Hazard analysis and risk assessment
 - c. "What happened when I (the teacher) performed the activity?"
5. The following items are attached:
 - a. ____ Copy of the activity
 - b. ____ Applicable SDSs