

**CENTRAL BOARD OF SECONDARY EDUCATION  
SHIKSHA SADAN, 17-ROUSE AVENUE, INSTITUTIONAL AREA,  
NEW DELHI-110002**

**CBSE/CM/ 2008/**

**Dated: 11.11.2008**

**Circular No. 51/08**

**All Heads of Institutions  
Affiliated to the Board**

**Subject: Safety in School Science Laboratories**

**Dear Principal,**

Science laboratories are essential and critical component in Science education. All students study Science as a compulsory subject upto grade X and a significant percentage of them continue studying Physics, Chemistry, Biology, BioTechnology, Home Science etc. at senior secondary level. This requires conduct of regular practical work and use of variety of equipment, instruments, gadgets, materials, chemicals, glassware etc. It is of utmost importance that in order to ensure safety of students working in Science laboratories, every essential precaution is taken well in advance.

It is not uncommon to observe that in many cases, the essential safety measures are either not given much attention or are ignored altogether. Gas fittings in chemistry laboratory often do not fulfil the mandatory standards and requirements. Chemical are, in many cases, not stored in safe manner and kept under safe custody. It is also observed that exhaust fans are sometimes not provided in chemistry laboratory. Mandatory items such as laboratory coats, goggles and gloves are not used while doing experimental work. Electrical fittings are at times done with sub-standard materials and components. Laboratories are not located with easy and open exits. Fire extinguishers are not installed at desired locations. First aid facilities are inadequate or missing. Medical facilities are also found wanting on many occasions. All such negligent actions may result in dangerous and unfortunate incidents and need to be attended to urgently.

In order to ensure safety of students in Science Laboratories, there is an urgent need to look into its different aspects and make the following provisions:

- Designing of all science laboratories according to necessary norms and standards.
- Two wide doors for unobstructed exits from the laboratory.
- Adequate number of fire extinguishers near science laboratories.
- Periodical checking of vulnerable points in the laboratories in relation to possibility of any mishappening.
- Ensuring gas fittings in Chemistry laboratory fulfilling desired norms and standards.
- Periodical checking of electrical fittings/ insulations for replacement and repairs.

- Timely and repeated instructions to students for careful handling of chemicals and equipments in the laboratory.
- Display of do's and dont's in the laboratory at prominent places.
- Safe and secure storage of all chemicals.
- Proper labelling and upkeep of chemicals.
- Proper safety and protection provisions such as fume hood, goggles and gloves while doing practical work.
- Careful supervision of students while doing practical work.
- Advance precautionary arrangements to meet any emergency situations.
- Conduct of any additional experimental work only under supervision and with due advance permission.
- Availability of First Aid and basic medical facilities in the school.
- Proper location of the laboratories.

The tragic fire incident in a school at Kumbakonam in 2004 is still afresh in which nearly 100 children lost their precious lives. The Board had issued a detailed Circular no. 28/2004 dated 26<sup>th</sup> July, 2004 asking schools to take all safety measures for meeting adverse situations and ensuring safe custody of children in the school. It is reiterated that all necessary safety measures may be taken and the above guidelines may be discussed in detail with the teachers as well as students for greater awareness and sensitization on safety matters.

The Board may depute an expert team to visit your school to find out whether all safety provisions in Science laboratories have been made.

With best regards

Yours faithfully,

**(VINEET JOSHI)**  
**CHAIRMAN**

**Copy with a request to respective Heads of Directorates/KVS/NVS/CTSA as indicated below to also disseminate the information to all concerned schools under their jurisdiction:**

1. The Commissioner, Kendriya Vidyalaya Sangathan, 18-Institutional Area, Shaheed Jeet Singh Marg, New Delhi-110 016.
2. The Commissioner, Navodaya Vidyalaya Samiti, A-28, Kailash Colony, New Delhi.
3. The Director of Education, Directorate of Education, Govt. of NCT of Delhi, Old Secretariat, Delhi-110 054.

4. The Director of Public Instructions (Schools), Union Territory Secretariat, Sector 9, Chandigarh-160 017.
5. The Director of Education, Govt. of Sikkim, Gangtok, Sikkim – 737 101.
6. The Director of School Education, Govt. of Arunachal Pradesh, Itanagar-791 111
7. The Director of Education, Govt. of A&N Islands, Port Blair-744 101.
8. The Secretary, Central Tibetan School Administration, ESSESS Plaza, Community Centre, Sector 3, Rohini, Delhi-110 085.
9. All the Regional Officers of CBSE with the request to send this circular to all the Heads of the affiliated schools of the Board in their respective regions.
10. The Education Officers/AEOs of the Academic Branch, CBSE.
11. The Joint Secretary (IT) with the request to put this circular on the CBSE website.
12. The Library and Information Officer, CBSE
13. EO to Chairman, CBSE
14. PA to CE, CBSE
15. PA to Secretary, CBSE
16. PA to Director (Acad.)
17. PA to HOD (AIEEE)
18. PA to HOD (Edusat)
19. PRO, CBSE

**CHAIRMAN**