

No. DE. 40(6)/DDE/SCB/Sc. Stream/2016/1404

Dated: 18/11/17

**All Head of the Schools
Govt./Govt. Aided and Unaided Pvt. Recognized Schools**

Sub: Safety in School Science Laboratories.

Science laboratories are essential and critical component in Science Education. All students study Science as a compulsory subject up to grade X and a significant percentage of them continue studying Physics, Chemistry, Biology, 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 fulfill the mandatory standards and requirements. Chemicals are, in many cases, not stored in safe manner and kept under safe custody. It is also observed that exhaust fans are sometimes and 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 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 provision:

- 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.
- Science Labs. (Composite for Secondary or/and separate Physics, Chemistry and Biology for Senior Secondary)- Minimum size should be 9 m. X 6 m. each (approx 600 sq. ft) and fully equipped.
- 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 fitting/ 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 don'ts in the laboratory at prominent places.
- Safe and secure storage of all chemicals.
- Proper labeling and upkeep of chemicals.
- Proper safety and protection provision such as fume hood, goggles and gloves while doing practical work.
- Careful supervision of students while doing practical work.
- Advance precautionary arrangement 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 Directorate of Education has issued directions time to time asking the 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 Science & TV Branch may depute an expert team to visit your school to find out whether all safety provision in Science laboratories have been made or not. Thus all the heads of Schools are hereby directed to ensure all the guidelines strictly.

This is issued with the prior approval of the Competent Authority.

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Copy to:

1. P.S. to Pr. Secretary (Education), GNCT of Delhi
2. P.S. to Director of Education, GNCT of Delhi
3. Spl. Director of Education (Science), GNCT of Delhi

(Zareen Taj)
Dy. Director of Education (Sc. & TV)

Dated: 18/01/17

(Zareen Taj)
Dy. Director of Education (Sc. & TV)