

Practitioner’s Guide | The K–12 Chemical Hygiene Officer:

A Companion to the NSTA Science Safety Advisory Board Safety Issue Paper

This guide provides essential facts about the Chemical Hygiene Officer (CHO) role in K–12 science laboratories and classroom instructional spaces, including what the role is, who is responsible for what, and what practitioners need to do. It is a companion to the full NSTA safety issue paper, which includes the complete legal and regulatory analysis.

Bottom line: If your school uses hazardous chemicals in any science laboratory or classroom instructional space, federal or state legal safety standards and/or better professional safety practices in all states require a Chemical Hygiene Plan and a designated Chemical Hygiene Officer. These are not optional.

1. What the Law Requires

Occupational Safety and Health Administration (OSHA) Laboratory Standard (29 CFR 1910.1450) applies to any employer where hazardous chemicals are used on a laboratory scale, which includes K–12 science laboratories and classroom instructional spaces. The standard requires three things:

- **A written Chemical Hygiene Plan (CHP)** that sets out all safety procedures, personal protective equipment (PPE) requirements, and work practices for every science laboratory and classroom instructional space in the district.
- **A designated Chemical Hygiene Officer (CHO)** who is qualified by training or experience to develop and implement the CHP.
- **Annual training for all staff** who work with or around hazardous chemicals, with full documentation.

Coverage note: Twenty-nine states and territories have OSHA-approved State Plans that make this standard legally enforceable for public school districts. In all other states, state hazard communication laws and U.S. Environmental Protection Agency (EPA) waste regulations still apply, and the OSHA standard is the recognized better professional safety practice and duty or standard of care used by courts in liability cases. Check your state’s status at [osha.gov/stateplans](https://www.osha.gov/stateplans).

2. Who Is Responsible for What

Appointing a CHO does not shift all responsibility onto one person. Each role carries distinct legal duties.

Role	Responsibilities
District	Provide a safer workplace. Create the CHP, appoint the CHO, and fund the resources needed for chemical safety (e.g., training, PPE, waste disposal).
CHO	Develop, implement, and monitor the safety programs for science laboratory and classroom instructional spaces and related areas. Work with other safety personnel by collaborating with environmental health and safety officers and teams.
Teacher	Follow the CHP. Implement all required standard operating procedures and PPE. Directly supervise every activity in the science laboratory or classroom instructional space. This responsibility cannot be delegated.
Principal	Support the teacher and the CHO at the building level. Provide time for training, enforce compliance, and share resource needs with district leadership.

3. CHO Core Duties at a Glance

The CHO must be empowered with the authority, dedicated time, and resources to carry out the following activities in every science laboratory and classroom instructional space across the district.

A: Leading Program Development and Management	Write, implement, and annually review the districtwide CHP. Establish standard operating procedures (SOPs) for addressing potential safety hazards and resulting health and safety risk activities. Approve procurement procedures. Oversee districtwide chemical inventory.
B: Conducting Hazard Assessment and Risk Management	Conduct formal hazard assessments for all activities. Maintain the district Safety Data Sheets (SDSs) library. Define required PPE for every procedure. Conduct regular inspections of all chemical storage to ensure proper segregation, labeling, and storage conditions.
C: Providing Training and Communication	Deliver and document mandatory annual safety training for all science and STEM staff. Provide SOP-specific training for potential safety hazards and resulting health and safety risk tasks. Act as a point of contact for all staff on chemical safety, hygiene, and regulatory compliance.
D: Monitoring, Auditing, and Record Keeping	Establish and monitor “near-miss” and incident reports, and investigate all chemical-related incidents. Conduct regular inspections of all science instructional spaces (e.g., laboratories and classrooms) and related areas (e.g., preparation rooms, chemical storage areas). Issue and track corrective actions.
E: Managing Waste	Oversee the district’s hazardous waste program in compliance with EPA (Resource Conservation and Recovery Act) and local and state legal safety requirements. Coordinate with licensed disposal contractors.
F: Staying Emergency-Ready	Develop and coordinate the chemical emergency response plan with facilities staff and local first responders. Ensure all science laboratories and classroom instructional spaces are equipped with appropriate kits and safety equipment.
G: Knowing Your State	Research applicable state OSHA, right-to-understand, and lab safety laws annually. Ensure the CHP meets the most stringent standard that applies.

4. Where the CHO Must Sit in Your District

The CHO must report directly to the superintendent of schools (or a cabinet-level designee such as an assistant superintendent for operations or risk management). A CHO reporting only to a building principal lacks the authority to drive districtwide change, access district budgets, or enforce corrective action within and across buildings.

This is not an administrative preference; it is the structural requirement that makes the CHO role effective.

5. Key Resources

For the full legal and regulatory analysis supporting this guide, refer to the accompanying NSTA policy paper. Additional primary resources include the following:

OSHA Occupational Exposure to Hazardous Chemicals in Laboratories	osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450
OSHA State Plans Directory	osha.gov/stateplans
NSTA Position Statement: Liability of Science Educators for Laboratory Safety	nsta.org/nstas-official-positions/liability-science-educators-laboratory-safety
NSTA Position Statement: Safety and Science Instruction	nsta.org/nstas-official-positions/safety-and-school-science-instruction
Prudent Practices in the Laboratory (2011)	nap.nationalacademies.org/catalog/12654
EPA Hazardous Waste (Resource Conservation and Recovery Act) Laws and Regulations	epa.gov/rcra