

HAZARD COMMUNICATION

Why the Standard Is a Challenge in General Industry

By Bernard L. Fontaine Jr.

Since its promulgation in 1983, OSHA's hazard communication standard (HCS), 29 CFR 1910.1200, has required employers to ensure that employees understand the chemical hazards present in their workplaces. Hazard communication has been and remains a persistent regulatory compliance challenge for all stakeholders.

Despite decades of regulatory familiarity and the 2012 alignment with the Globally Harmonized System of Classification and Labeling of Chemicals, hazard communication remains one of OSHA's most frequently cited standards. It ranked second among OSHA's top 10 most frequently cited standards in fiscal year 2022, with more than 2,600 violations issued nationwide (OSHA, 2026). This standard's persistent ranking among the most cited standards raises an important question for safety professionals: Why are employers still being cited, and what practical steps can reduce the likelihood of violations?

Understanding the drivers of citation is essential. In many cases, hazard communication violations do not stem from catastrophic failures but from routine administrative and operational gaps such as outdated written programs, missing secondary container labels, inaccessible safety data sheets (SDSs), and undocumented or inadequate training. These are preventable deficiencies that can expose organizations to regulatory penalties and increased health risk.

How Citation Trends & Research Inform Practice

HCS applies to nearly every workplace that uses hazardous chemicals, from manufacturing plants with complex inventories to small offices using cleaning products. To better understand why hazard communication remains highly cited, this review considered multiple sources of evidence.

First, OSHA's annual top 10 citation data from 2010 through 2023 were examined to identify enforcement patterns and recurring subcategories (OSHA, 2026). Training deficiencies, written program gaps and labeling violations consistently appear among the most frequently cited elements of the standard.

Second, peer-reviewed literature addressing safety culture, organizational behavior and worker representation was reviewed to explore structural contributors to noncompliance (Conklin, 2012;

Walters & Nichols, 2007). These studies suggest that organizations often prioritize hazards associated with immediate injury over those linked to long-term occupational illness, contributing to underinvestment in chemical and process safety.

Third, agency guidance documents from OSHA (n.d.) and the International Labor Organization (ILO, 2019) were consulted to compare regulatory expectations with typical workplace practices. This comparison highlights a common misconception that compliance is achieved simply by purchasing properly labeled chemicals. In reality, employers are responsible for ensuring that hazard information is effectively communicated, maintained and understood at the worksite.

Synthesizing enforcement data, research findings and agency guidance reveals that hazard communication citations are driven by not only regulatory complexity but also organizational behavior and resource allocation decisions. Failure in any one of these areas constitutes a violation. Many organizations struggle with the administrative burden, especially without a dedicated occupational and environmental health and safety staff.

Common Reasons For Citation

One reason for frequent citation is the broad applicability of the standard. Nearly every workplace uses hazardous chemicals, from large manufacturing facilities to small offices using cleaning products. Due to this universality, OSHA compliance officers routinely evaluate hazard communication during inspections, thereby increasing the likelihood of citations.

Another significant factor is the interdependent structure of the standard. Employers must maintain a written hazard communication program, keep a current chemical inventory, ensure access to SDSs, properly label all containers (including secondary containers) and provide effective employee training (OSHA, 2026). A deficiency in any one element constitutes a violation.

Labeling deficiencies are particularly common. Secondary containers, such as spray bottles used in maintenance or sanitation tasks, are frequently left unlabeled. During inspections, compliance officers often identify containers lacking product identifiers or hazard warnings. Similarly, SDSs may be outdated, incomplete or inaccessible to employees during their work shifts.

Training remains one of the most cited subcategories. OSHA frequently documents that training is generic, not site-specific, or inadequately documented. Employees may be unable to explain pictograms from the Globally Harmonized System of Classification and Labeling of Chemicals or describe protective measures for chemicals they handle. When workers cannot demonstrate understanding, inspectors may conclude that training is ineffective.

Written programs also present recurring deficiencies. Employers sometimes rely on generic templates that do not reflect actual workplace conditions. In other cases, programs are not updated when new chemicals are introduced. Discrepancies between written documentation and observed practices during an inspection often result in a citation.

Finally, hazard communication is sometimes perceived as administrative paperwork rather than an operational safety system. Because many chemical exposures result in long-latency health outcomes rather than immediate injuries, leadership may focus attention elsewhere. Research on organizational safety culture suggests that such prioritization influences compliance performance (Conklin, 2012; Walters & Nichols, 2007).

Practical Strategies to Reduce Citation Risk

Reducing hazard communication violations requires integrating regulatory compliance into everyday operations rather than treating it as a standalone documentation exercise. One effective approach is to embed hazard review into procurement processes. When new chemicals are introduced, procedures should require updating the chemical

inventory, reviewing SDSs, and revising the written program as needed before the material is placed into use. This prevents undocumented chemical introduction, which is a common trigger for citations.

Digital chemical management platforms can improve SDS tracking and accessibility. However, technology alone is insufficient. Employees must know how to access SDSs during normal operations. Periodic drills such as asking workers to retrieve specific SDSs can verify the system's effectiveness before an inspection. One common problem is that SDSs are missing, outdated or stored in inaccessible formats.

Supervisory accountability is also critical. Routine walkthroughs should include checks for properly labeled secondary containers. Treating unlabeled containers with the same urgency as physical safety hazards reinforces expectations and strengthens compliance culture. Secondary container labeling is often overlooked. Some employers frequently rely solely on supplier labels without ensuring compliance across the workplace.

Training is the most cited subcategory of OSHA violations. HCS should move beyond generic presentations. Site-specific, task-based instruction tied to actual chemical use improves comprehension and retention. For example, before introducing a new solvent, supervisors can conduct a focused discussion of its hazards, required PPE and spill response procedures.

Documentation should capture attendance, content and evaluation methods. Microlearning modules and interactive training can be tailored to specific workplace hazards common to the

organization. Another issue is the lack of refresher training when new chemicals are introduced into the work task or process.

Finally, integrating hazard communication into broader occupational safety and health management systems such as ISO 45001 can institutionalize periodic review and auditing. Regular internal audits comparing written programs, inventories and field practices reduce the likelihood of outdated or inconsistent documentation (ILO, 2019).

Discussion

The OSHA HCS requires multiple interrelated elements, including a written hazard communication program; a current chemical inventory; SDSs that are readily accessible to employees working on all shifts and in remote locations; proper labeling of all containers, including secondary containers; and employee training at the time of hiring and whenever new chemical hazards are introduced.

The persistence of hazard communication violations highlights both structural and behavioral issues. Structurally, the broad applicability and multifaceted requirements create numerous opportunities for deficiencies. Behaviorally, employers often misperceive hazard communication as low-risk compared to physical hazards, leading to underinvestment.

Ultimately, the business case is clear: Failure to comply not only risks OSHA citations and penalties but also increases the likelihood of chemical-related injuries, illnesses and litigation. Conversely, strong hazard communication programs improve worker awareness, foster

collaboration on sustainable engineering and administrative controls, reduce exposure incidents, and enhance an organization's reputation with the supply chain, stakeholders and shareholders.

Conclusion

The OSHA HCS remains among the most cited violations in general industry because it applies to nearly all workplaces covered within the continental United States, contains multiple interrelated requirements, and is routinely reviewed during inspections. Training deficiencies, labeling gaps, outdated written programs, and organizational under-prioritization of chemical hazards are recurring drivers of a citation.

For safety professionals, the solution lies in operational integration. Embedding hazard communication into procurement, supervision, training, and management systems transforms compliance from a paperwork exercise into a proactive risk management tool. In doing so, organizations not only reduce citation risk but also strengthen worker protection and long-term health outcomes. **PSJ**

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ENSURE HAZARD COMMUNICATION COMPLIANCE

- Audit all program elements.** Regularly verify that the written hazard communication program, chemical inventory, safety data sheet (SDS) library, labeling system and training records are complete, current and aligned with workplace practices.
- Integrate reviews into purchasing.** Require hazard reviews whenever new chemicals are purchased, including updating inventories, obtaining SDSs and revising written programs before materials are introduced into operations.
- Label every container.** Establish routine inspections to ensure that all containers, including secondary containers, display appropriate product identifiers and hazard information.
- Test SDS accessibility.** Periodically ask employees to locate specific SDSs during normal work conditions to confirm that safety information is readily available on all shifts and in all work areas.
- Deliver site-specific training.** Replace generic hazard communication presentations with task-based instruction focused on the chemicals employees use, including hazards, PPE requirements and emergency response procedures.
- Conduct routine compliance audits.** Compare written programs, chemical inventories, SDSs, and field observations on a scheduled basis to identify and correct inconsistencies before an OSHA inspection.