

Chemical labeling under OSHA HCS GHS Adoption

Stop! Look! Read!

By Dr. Ken Roy

Director of Environmental Health & Chemical Safety

Glastonbury Public Schools

Glastonbury, CT, USA;

Chief Science Safety Compliance Adviser & NSTA Safety Blogger

National Science Teachers Association (NSTA); Safety Compliance Officer

National Science Education Leadership

Association (NSELA)

Email Address: Royk@glastonburyus.org

For the Latest on K-12 Lab Safety Follow Ken Roy on TWITTER @drroysafersci

New labeling requirements should help make it safer for both science teachers and their students, given the information provided relative to chemical hazards. In 2012, OSHA has adopted new hazardous chemical labeling requirements with the revision of the Hazard Communication Standard, 29 CFR 1910.1200 (HCS). This action has brought the HCS into alignment with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS).



The revised standard requires information about chemical hazards be reflected on labels using quick visual notations to alert the user. Labels must also provide instructions on how to handle the chemical so that chemical users are informed about how to protect themselves. All hazardous chemicals shipped after June 1, 2015, must be labeled with specified elements including pictograms, signal words and hazard and precautionary statements.

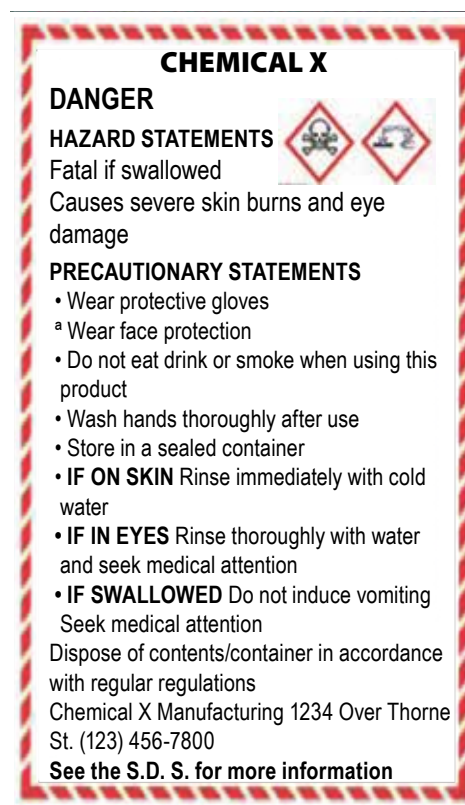
Label requirements:

Label requirements resulting from the OSHA HCS adopted GHS standard are as follows: Product identifier; signal word; hazard statement(s); precautionary statement(s); and pictogram(s); and name, address and telephone number of the chemical manufacturer, importer, or other



responsible party. The following description requirements have been established by OSHA:

- **Name, Address and Telephone Number** of the chemical manufacturer, importer or other responsible party.
- **Product Identifier** is how the hazardous chemical is identified. This can be (but is not limited to) the chemical name, code number or batch number. The manufacturer, importer or distributor can decide the appropriate product identifier. The same product identifier must be both on the label and in section 1 of the SDS.
- **Signal Words** are used to indicate the relative level of severity of the hazard and alert the reader to a potential hazard on the label. There are only two words used as signal words, "Danger" and "Warning." Within a specific hazard class, "Danger" is used for the more severe hazards and "Warning" is used for the less severe hazards. There will only be one signal word on the label no matter how many hazards a chemical may have. If one of the hazards warrants a "Danger" signal word and another warrants the signal word "Warning," then only "Danger" should appear on the label.
- **Hazard Statements** describe the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard. For example: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin." All of the applicable hazard statements must appear on the label. Hazard statements may be combined where appropriate to reduce redundancies and improve readability. The hazard statements are specific to the hazard classification categories, and chemical users should always see the same statement for the same hazards no mat-



ter what the chemical is or who produces it.

- **Precautionary Statements** describe recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to the hazardous chemical or improper storage or handling. There are four types of precautionary statements: **prevention** (to minimize exposure); **response** (in case of accidental spillage or exposure emergency response, and first-aid); **storage**; and **disposal**. For example, a chemical presenting a specific target organ toxicity (repeated exposure) hazard would include the following on the label: "Do not breathe dust/fume/gas/mist/vapors/spray. Get medical advice/attention if you feel unwell. Dispose of contents/ container in accordance with local/regional/ national and international regulations."
- **Supplementary Information.** The label producer may provide additional instructions or information that it deems helpful. It may also list any hazards not otherwise classified under this portion of the label. This section must also identify the percentage of ingredient(s) of unknown acute toxicity when it is present in a concentration of $\geq 1\%$ (and

the classification is not based on testing the mixture as a whole). If an employer decides to include additional information regarding the chemical that is above and beyond what the standard requires, it may list this information under what is considered "supplementary information." There is also no required format for how a workplace label must look and no particular format an employer has to use; however, it cannot contradict or detract from the required information.

Relabeling:

Current commercial labels in your storage inventory are grandfathered and need not be updated.

When moving the hazardous chemical to another container, the following information must appear on the new label:

- a. Chemical Name
- b. Concentration
- c. Date Prepared
- d. Hazard Information

Employer responsibilities:

Employers are responsible for maintaining the labels on the containers, including, but not limited to, bottles, tanks, totes, and drums. This means that labels must be maintained on chemicals in a manner which continues to be legible and the pertinent information (such as the hazards and directions for use) does not get defaced (i.e., fade, get washed off) or removed in any way. Chemical Hygiene Officers need to make sure this aspect is enforced.

IN THE END:

At this juncture, all chemicals currently being purchased are to have the revised GHS labeling requirements from commercial sources. Make sure not only science teachers but also students understand how to read and make use of the information prior to handling any hazardous chemical in the lab!!

REFERENCE:

OSHA BRIEF: *Hazard Communication Standard: Labels and Pictograms* - <https://www.osha.gov/Publications/OSHA3636.pdf>