

TITLE:

EHS-321 COLOR CODING AND ACCIDENT PREVENTION SIGNS AND TAGS GUIDELINES

1.0 Introduction

1.1 Purpose

The purpose of this guideline is to communicate information and to establish a method for marking physical hazards.

1.2 Scope

This guideline is intended for Emory employees, including faculty, staff, and student employees, who through their work activities are exposed to accident prevention signs and tags or aboveground piping. These specifications apply to the design, application, and use of signs or symbols intended to indicate a specific hazard that failure to designate them may lead to accidental injury to workers or the public or to property damage. These specifications are intended to cover all safety signs except those designed for streets, highways, and railroads. All new signs and replacements of old signs shall be in accordance with these specifications. Specific requirements for laboratory signage, as specified in the Emory University Chemical Hygiene Plan, are not included in this guideline.

1.3 Definitions

Biological Hazard. An infectious agent presenting a risk of death, injury or illness to employees or the public.

Major Message. Portion of an accident prevention sign or tag that is more specific than the signal word and that indicates the specific hazardous condition or the instruction to be communicated to the employee. Includes written text and/or a pictograph.

Pictograph. A pictorial representation used to identify a hazardous condition or to convey a safety instruction.

Single Word. Portion of an accident prevention sign or tag's inscription that contains the word or words that are intended to capture the employee's immediate attention.

Tag. A device usually made of card, paper, pasteboard, plastic or other material used to identify a hazardous condition.

2.0 General Safety

In order to maintain and create universally understood accident prevention signs and tags, it is recommended that employees:

- Comply with the warnings and instructions given on accident prevention signs and tags; and
- Immediately notify their supervisors about any work areas requiring accident prevention signs and tags.

In order to maintain and create universally understood accident prevention signs and tags, it is recommended that supervisors:

- Ensure compliance with accident prevention sign and tag specifications through an auditing process;

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- Assess and ensure the areas needing accident prevention signs/tags and pipe labeling are so marked;
- Ensure that an adequate supply and variety of accident prevention signs, tags, and labels are made available for use; and
- Train all employees on the requirements of these guidelines;

Employees should be trained to recognize and understand the warning information conveyed on accident prevention signs and tags. Training should include:

- The purpose of color codes;
- The purpose for accident prevention signs and tags;
- The types and uses of accident prevention signs and tags; and
- The types and uses of pipe labeling.

3.0 Color Identification of Accident Prevention Signs and Tags

Red

- Danger. Any hazard that presents an immediate danger that could result in harm to workers or the public.
- Fire protection equipment, routes, and apparatus.
- Flammables. Safety cans or other portable containers of flammable liquids having a flashpoint at or below 80 degrees F.
- Stop. Emergency shut-off bar, button, switch, etc. on hazardous machinery.

Yellow

- Caution.
- Physical hazards, such as: striking against, stumbling, falling, tripping, and "caught in between."

Green

- Safety information.

4.0 Classification of Signs According to Use

Danger Signs

- There shall be no variation in the type of design of signs posted to warn of specific dangers or radiation hazards.
- All employees shall be instructed that danger signs indicate immediate danger and that special precautions are necessary.
- These signs will be red, black, and white and will be posted in clear view.

Caution Signs

- These signs shall be used only to warn against potential hazards or to caution against unsafe practices.
- All employees shall be instructed that caution signs indicate a possible hazard against which proper precaution should be taken.
- These signs will have a black upper panel and yellow letters. The lower panel will have a yellow background and black letters. The sign will be posted in clear view.

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- Safety instruction signs shall be used where there is a need for general instructions and suggestions relative to safety measures.
- These signs will be white with a green upper panel and white letters. Any additional wording on the sign will be black letters on the white background. The sign will be posted in clear view.

Slow Moving Vehicles

- The emblem will be a fluorescent yellow-orange triangle with a red reflective boarder.
- The emblem is used to identify vehicles traveling at 25 mph or less on public roads.

Biological Hazard Signs

- Biological hazard signs will be used to inform employees of the actual or potential presence of biological hazards and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents.
- These signs will be florescent orange-red with lettering or symbols in a contrasting color.

Radiation Hazard Signs

- Radiation hazard signs are posted where radioactive materials are being handled, or where radiation-producing equipment is being used so employees can take the necessary precautions before entering the area.
- These signs will contain the conventional radiation caution colors (magenta or purple on a yellow background) and the traditional radiation symbol.

5.0 Sign Design Specifications

Design Features

- All signs shall be furnished with rounded or blunt corners and shall be free from sharp edges, burrs, splinters, or other sharp projections.
- The ends or heads of bolts or other fastening devices shall be located in such a way that they do not constitute a hazard.
- The colors and sizes are specified in Table 1, 2, and 3 "Specifications for Accident Prevention Signs" of ANSI Z53.1-1968 or in Table 1, "Specification of the Safety Colors for CIE Illuminate C and the CIE 1931 2 degrees Standard Observer" of ANSI Z535.1-2006 (R2011), incorporated by reference in 29 CFR 1910.6.

General Specifications

- All signs must contain a signal word and a major message.
- The signal word will be readable at a minimum distance of five feet (1.52 m) or such greater distanced as warranted by the hazard.
- Employers have the option to comply with the updated version (ANSI Z535.1-2006) or the earlier standards (ANSI Z35.1-1968).

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6.0 Accident Prevention Tags

Use

- Accident prevention tags are a temporary method of warning of a hazardous condition, defective equipment, radiation hazards, etc.
- Accident prevention tags will not be used as a substitute for accident prevention signs, unless a sign is not a viable option due to limited space or creates an additional hazard.
- The messages on these tags will be removed or covered when the hazard no longer exists.

Design

- The design of accident prevention tags will be the same as accident prevention signs.
- Accident prevention tags will contain a signal word or emblem (such as Danger, Caution, or Biohazard) and a major message or pictograph.
- The signal word will be readable from a distance of at least five feet and will be comprehensible for all employees.
- The major message will indicate the particular hazard involved and/or instructions to the exposed person.
- Accident prevention tags will be located and secured as close as possible to the hazard.
- The colors and sizes for accident prevention tags are specified in Table 1 of ANSI Z35.3: "Specifications for Accident Prevention Tags."

7.0 Pipe Marking Guide

Color Code

- Flammables are fluids that are a vapor or produce vapors that can ignite and continue to burn in air. Pipes containing flammables will be marked with black lettering on yellow background.
- Combustibles are fluids that can ignite and burn, but are not flammable. Pipes containing combustibles will be marked with white lettering on brown background.
- Toxins and Corrosives are fluids that are corrosive or toxic or will produce corrosive or toxic substances. Pipes containing toxins or corrosives will be marked with black lettering on orange background.
- Fire quenching materials are water and other substances used in sprinkler firefighting piping systems. Pipes containing fire-quenching materials will be marked with white lettering on red background.
- Other water materials are any other water except for water used in sprinkler firefighting piping systems. Pipes containing other water materials will be marked with white lettering on green background.
- Compressed air is any vapor or gas under pressure that does not fit into any of the preceding categories. Pipes containing compressed air will be marked with white lettering on blue background.
- High-pressure steam will be marked with the legend HPS in black lettering on yellow background.

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General Specifications

- The colors and sizes for labels used to mark pipes are specified in ANSI/ASME A13.1-2007.
- The labels will be positioned so that they can be easily viewed from the normal angle of approach.

8.0 References

- [Occupational Health and Safety Administration \[OSHA\], 1910 Subpart J, General Environmental Controls- Safety Color Code for Marking Physical Hazards- 29 CFR 1910.144](#)
- [Occupational Health and Safety Administration \[OSHA\], 1910 Subpart J, General Environmental Controls- Specifications for Accident Prevention Signs and Tags- 29 CFR 1910.145](#)
- American National Standards Institute Z35.1-1968: Specifications for Accident Prevention Signs
- American National Standards Institute Z35.2-1968: Specifications for Accident Prevention Tags
- American National Standards Institute Z535.1-6-2006 (R2011): Specifications for Accident Prevention Signs and Tags.
- American National Standards Institute/ ASME A13.1-56: Scheme for the Identification of Piping Systems.