

General Safety & Health Standards
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Accident Prevention Signs and Tags 170

170. ACCIDENT PREVENTION SIGNS AND TAGS

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170. ACCIDENT PREVENTION SIGNS AND TAGS (7-1-97)

01. Scope: (7-1-97)

a. Safety color coding for marking physical hazards shall conform to all other applicable requirements of this standard, as well as the following provisions. Nothing in this standard shall be construed to prohibit better or otherwise safer conditions than specified herein. (7-1-97)

b. These specifications apply to the design, application, use of signs or symbols, tags, and colors intended to indicate and, insofar as possible, to define specific hazards of a nature such that failure to designate them may lead to accidental injury to workers or the public, or both, or to property damage. (7-1-97)

c. These specifications are intended to cover all safety signs except those designated for streets, highways, railroads, and marine regulations. These specifications do not apply to bulletin boards or to safety posters. (7-1-97)

02. Definitions: For definitions of other terms used in this section, see sub-section 010 of this standard. (7-1-97)

a. Sign is a surface on which letters or other markings appear, prepared for the warning of, or safety instructions of, workers who may be exposed to hazards. Excluded from this definition, however, are news releases, displays commonly known as safety posters, and bulletins used for employee education. (7-1-97)

b. Tag is a surface (usually card, paper, pasteboard, or some temporary or nonpermanent material) on which letters or markings, or both, appear. These letters or markings, or both, are for warning (cautioning) or safety instruction of employees who may be exposed to hazards. Tags are to be affixed to device in question by string, wire, or adhesive. (7-1-97)

03. General Requirements: (7-1-97)

a. All hazards shall be appropriately signed or tagged. (7-1-97)

04. Color Identification: (7-1-97)

a. The following colors shall be used for marking physical hazards. (7-1-97)

b. Colors shall meet the tests specified in Section 3, Color Definitions, of ANSI Z53.1, Safety Color Code for Marking Physical Hazards. (7-1-97)

05. Red: (7-1-97)

a. Red shall be the basic color for the identification of fire protection equipment and apparatus: Fire alarm boxes (pull boxes); fire blanket boxes; fire buckets or pails; fire extinguishers (if painting the extinguisher is impractical or undesirable, color should be used on the housing, wall, or support to identify the location); fire hydrants (industrial); fire pumps; fire sirens; post indicator valves for sprinkler system (it is suggested that if a traffic hazard is involved, the top should be colored red, and the barrel or post yellow and black stripes); and sprinkler piping (recommendation). (see ANSI Standard Scheme for the identification of Pipe Systems, A13.1) (7-1-97)

b. Red shall be the basic color for the identification of danger. Safety cans or other portable containers of flammable liquids having a flashpoint at or below eighty (80) degrees Fahrenheit. Table containers of flammable liquids (open cup tester), excluding shipping containers, shall be painted red with some additional clearly visible identification either in the form of a yellow band around the can or the name of the contents conspicuously stenciled or painted on the can in yellow. Red lights shall be provided at barricades and at temporary obstruction, as specified in ANSI Safety Code for Building Construction, A10.2. (7-1-97)

c. Red shall be the basic color for the identification for stop. Emergency stop bars on hazardous machines such as rubber mills, wire blocks, flat work ironers, etc., shall be red. Stop buttons or electrical switches used for emergency stopping of machinery shall be red. (7-1-97)

06. Orange: (7-1-97)

a. Orange shall be used as the basic color for designating dangerous parts of machines or energized equipment which may cut, crush, shock, or otherwise injure and to emphasize such hazards when enclosure doors are open, or when gear belt, or other guards around moving equipment are open or removed, exposing unguarded hazards. (7-1-97)

07. Yellow: (7-1-97)

a. Yellow shall be the basic color for designating caution and for marking physical hazards such as: striking against, stumbling, falling, tripping, and "caught in between". Solid yellow, yellow and black stripes, or yellow and black checkers (or yellow with suitable contrasting background) should be used interchangeably, using the combination which will attract the most attention in the particular environment. Yellow shall be the basic color for designating caution, limited to warning against the starting, the use of, or the movement of equipment under repair or being worked upon. (7-1-97)

08. Green: (7-1-97)

a. Green shall be used as the basic color for designating "safety" and the location of first aid equipment (other than firefighting equipment). (7-1-97)

09. Purple: (7-1-97)

a. Purple shall be the basic color for designating radiation hazards. "Radiation" as used in this subdivision refers to radiation types such as x-rays, alpha, beta, gama, neutron, proton, deuteron, and meson. Yellow should be used in combination with purple for markers such as tags, labels, signs, and floor markers. (7-1-97)

10. Black, White, or Combinations of Black and White: (7-1-97)

a. Black, White, or combination of these two, shall be the basic colors for the designation of traffic and housekeeping markings. Solid white, solid black, single color striping, alternate stripes of black and white, or black and white checkers should be used in accordance with local conditions. (7-1-97)

11. Signs: (7-1-97)

a. The colors, proportions, and location of the identification panels on each sign shall be in accordance with this section (7-1-97)

b. All new signs and replacements of old signs after August 7, 1971, shall be in accordance with these specifications. (7-1-97)

c. 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. (7-1-97)

d. The wording of any sign shall be easily read and concise. The wording shall make a positive, rather than a negative suggestion and should be accurate in fact. (7-1-97)

e. Signs shall be used as a means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment, or operations which are out of the ordinary, unexpected, or not readily apparent. (7-1-97)

f. There shall be no variation in the design of signs posted to warn, caution, or inform. (7-1-97)

g. When conditions warrant the use of a sign size not covered in the following tables, the ratio of the depth of the identifying panel (Danger, Caution, Etc.) to the width of the sign shall be as established in Tables 170.12-A, 170.13-A, 170.14-A, and 170.15-A. (7-1-97)

12. Danger Signs: (7-1-97)

a. Danger signs shall be posted where an immediate hazard exists. (7-1-97)

b. All employees shall be instructed that danger signs indicate immediate danger and that special precautions are necessary. (7-1-97)

c. The colors red, black, and white shall be those of opaque glossy samples as specified in Table 1 of Fundamental Specification of Safety Colors for CIE Standard Source "C", American National Standard Z53.1. (7-1-97)

d. Standard proportions shall be as indicated in Table 170.12-A and format shall be as in Figure 170.12-A. (7-1-97)

TABLE 170.12-A				
STANDARD PROPORTIONS FOR DANGER SIGNS				
Sign size, inches Height Width	Black rectangular panel, inches Height Width	Red oval, inches Height Width	Word danger, Height inches	Maximum space available for sign wording, inches
HORIZONTAL PATTERN				
7 x 10	3 1/4 x 9 3/8	2 7/8 x 8 1/2	1 7/16	2 3/4 x 9 3/8

10 x 14	4 5/8 x 13 3/8	4 1/8 x 11 7/8	2 1/16	4 1/4 x 13 3/8
14 x 20	6 1/2 x 19 3/8	5 3/4 x 17	2 7/8	6 1/4 x 19 3/8
20 x 28	9 1/4 x 27 3/8	8 1/4 x 23 7/8	4 1/8	9 1/2 x 27 3/8
UPRIGHT PATTERN				
10 x 7	2 3/8 x 6 3/8	2 1/8 x 5 7/8	1 1/16	6 3/8 x 6 3/8
14 x 10	3 1/4 x 9 3/8	2 7/8 x 8 1/2	1 7/16	9 1/2 x 9 3/8
20 x 14	4 5/8 x 13 3/8	4 1/8 x 11 7/8	2 1/16	14 x 13 3/8
28 x 20	6 1/2 x 19 3/8	5 3/4 x 17	2 7/8	20 1/4 x 19 3/8

FIGURE 170.12-A



Black background encasing a red oval encircled in white with white letters.

Black letters stating immediate hazard on white background.

13. Caution Signs: (7-1-97)

a. Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices. (7-1-97)

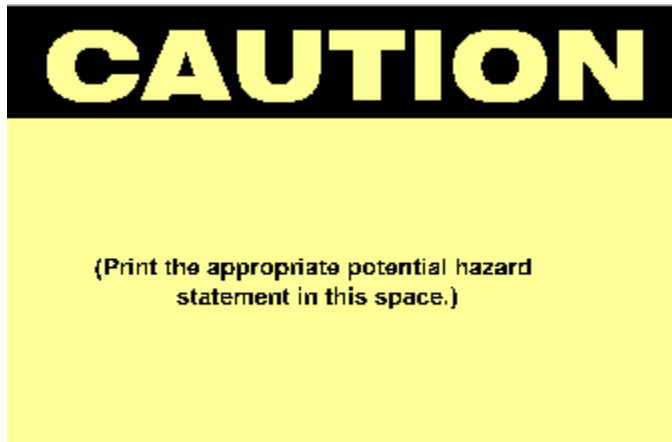
b. All employees shall be instructed that caution signs indicate a possible hazard against which proper precautions shall be taken. (7-1-97)

c. Standard color of the background shall be yellow; and the panel black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1. (7-1-97)

d. Standard proportions shall be as indicated in Table 170.13-A and format shall be as in Figure 170.13-A. (7-1-97)

TABLE 170.13-A			
STANDARD PROPORTIONS FOR CAUTION SIGNS			
Sign size, inches Height Width	Black rectangular panel, inches Height Width	Word "Caution" height of letter, inches	Maximum space available for sign wording below panel inches, Height Width
HORIZONTAL PATTERN			
7 x 10	2 1/4 x 9 3/8	1 5/8	3 1/4 x 9 3/8
10 x 14	3 1/4 x 13 3/8	2 1/4	5 1/2 x 13 3/8
14 x 20	3 3/4 x 19 3/8	2 3/4	9 x 19 3/8
20 x 28	4 1/4 x 27 3/8	3 1/4	14 1/2 x 27 3/8
UPRIGHT PATTERN			
10 x 7	1 5/8 x 6 3/8	1 1/8	7 x 6 3/8
14 x 10	2 1/4 x 9 3/8	1 5/8	10 1/2 x 9 3/8
20 x 14	3 1/4 x 13 3/8	2 1/4	15 1/2 x 13 3/8
28 x 20	3 3/4 x 19 3/8	2 3/4	24 x 19 3/8

FIGURE 170.13-A



Black background with yellow letters.

Yellow background with black letters.

14. Safety Instruction Signs: (7-1-97)

a. Safety instruction signs shall be used where there is a need for general instructions and suggestions relative to safety measures. (7-1-97)

b. Standard color of the background shall be white; and the panel, green with white letters. Any letters used against the white background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1. (7-1-97)

c. Standard proportions shall be as indicated in Table 170.14-A and format shall be as in Figure 170.14-A. (7-1-97)

TABLE 170.14-A				
STANDARD PROPORTIONS FOR SAFETY INSTRUCTION SIGNS				
Sign size, inches, height, width	Green panel, inches, height, width	Minimum word height of letters, inches	Maximum word height of letters, inches	Space available for sign wording below panel inches, height, width
7 x 10	3 3/8 x 9 3/8	1 1/4	1 3/16	2 1/2 x 9 3/8
10 x 14	4 1/4 x 13 3/8	1 3/4	2 3/16	4 x 13 3/8
14 x 20	6 1/4 x 19 3/8	2 1/2	3 1/8	6 x 19 3/8
20 x 28	9 1/2 x 27 3/8	3 1/2	4 3/8	9 1/4 x 27 3/8

FIGURE 170.14-A



Green background with white letters. This can state whatever may be appropriate, i.e., Be Careful, Safety First, Think, etc.

White background with black letters.

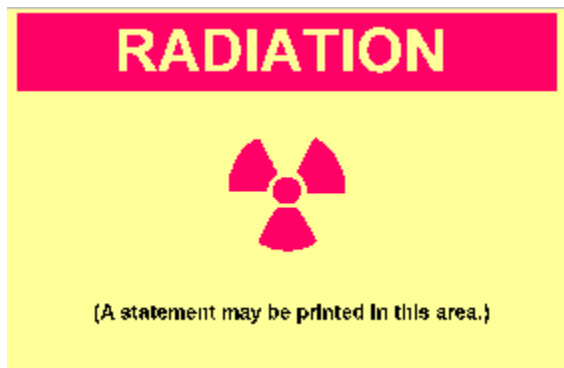
15. Radiation Warning Signs: (7-1-97)

a. Standard color for the background shall be yellow; the panel, reddish purple with yellow letters; the symbol, reddish purple, any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1. (7-1-97)

b. The standard symbol shall be as in Figure 170.15-A. Method of dimensioning, design, and orientation of the standard symbol (one blade pointed downward and centered on the vertical axis) shall be executed as illustrated. The symbol shall be prominently displayed, and of a size consistent with the size of the equipment, material or area to which it is attached. (7-1-97)

c. Format shall be as in Figure 170.15-A. Sign proportions shall be the same as those for danger signs in Table 170.12-A. (7-1-97)

FIGURE 170.15-A



Reddish purple background with yellow letters.

Yellow background with reddish purple symbol.

Yellow background with black letters.

16. Biological Hazard Signs: (7-1-97)

a. The biological hazard warning shall be used to signify the actual or potential presence of a biohazard and to identify equipment containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with viable hazardous agents. (7-1-97)

b. For the purpose of this subsection the term "Biological Hazard or, Biohazard" shall include only those infectious agents presenting a risk or potential risk to the well being of man. (7-1-97)

c. The biohazard symbol shall be designed and proportioned as illustrated in Figure 170.16-A. The symbol design shall be a fluorescent orange or orange-red color. Background color is optional as long as there is sufficient contrast for the symbol to be clearly defined. Appropriate wording may be used in association with the symbol to indicate the nature or identity of the hazard, name of individual responsible for its control, precautionary information, etc., but never should this information be superimposed on the symbol. (7-1-97)

d. Format shall be as in Figure 170.16-A. Sign proportions shall be the same as those for danger signs in Table 170.12-A. (7-1-97)

FIGURE 170.16-A



Biohazard sign background color is to be fluorescent orange or orange-red. The biohazard symbol and lettering is to be any color contrasting with the biohazard sign background color. May use appropriate wording to indicate the nature or identity of the hazard.

17. Traffic Signs: (7-1-97)

a. Regulatory and control signs required for the safe movement of vehicles and pedestrians on thoroughfares on plant /facility property shall conform to the standards established in American National Standard Manual on Uniform Traffic Control Devices for Streets and Highways, D6.1. (7-1-97)

18. Informational Signs: (7-1-97)

a. Blue shall be the standard color for informational signs. (3-7-83)

b. Blue may be used as the background color for the complete sign or as a panel at the top of such types of "Notice" signs, which have a white background, see Figure 170.18-A. (7-1-97)

FIGURE 170.18-A



White background with blue panel and white letters or full blue background with white letters.

White or blue background with black letters.

c. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1-1971. (7-1-97)

19. Slow-moving Vehicle Emblem: (7-1-97)

a. This emblem (see Figure 170.19-A) consists of a fluorescent yellow-orange triangle with a dark red reflective border. The yellow-orange fluorescent triangle is a highly visible color for daylight exposure. The reflective border defines the shape of the fluorescent color in daylight and creates a hollow red triangle in the path of motor vehicle headlights at night. (7-1-97)

b. The emblem is intended as a unique identification for, and it shall be used only, on vehicles which by design move slowly (twenty-five (25) mph or less) on the public roads. (7-1-97)

c. The emblem is not a clearance marker for wide machinery nor is it intended to replace required lighting or marking of slow moving vehicles. (7-1-97)

d. Neither the color film pattern and its dimensions nor the backing shall be altered to permit use of advertising or other markings. (7-1-97)

e. The material, location, mounting, etc., of the emblem shall be in accordance with the American Society of Agricultural Engineers Emblem for Identifying slow-moving vehicles, ASAE R276, or ASAE S276.2 (ANSI B115.1). (7-1-97)

FIGURE 170.19-A



Fluorescent yellow-orange triangle with dark red reflective border.

20. Accident Prevention Tags: (7-1-97)

a. The tags are a temporary means of warning all concerned of a hazardous condition, defective equipment, radiation hazards, etc. The tags are not to be considered as a complete warning method, but should be used until a positive means can be employed to eliminate the hazard; for example, a "Do not start" tag on power equipment shall be used for a few moments or a very short time until the switch in the system can be locked out; a "Defective equipment" tag shall be placed on a damaged ladder and immediate arrangements made for the ladder to be taken out of service and sent to the repair shop. (7-1-97)

b. The tags are to be used to help prevent accidental injury to personnel, or damage to property, or both. (7-1-97)

c. Tags shall contain a signal word and a major message. The signal word shall be either "Danger", "Caution", or "Biological Hazard", "BIOHAZARD", or the biological hazard symbol. The major message shall indicate the specific hazardous condition or the instruction to be communicated to the employee. The tag's major message shall be presented in either pictographs, written text or both. The signal word and the major message shall be understandable to all employees who may be exposed to the identified hazard. (7-1-97)

d. All employees shall be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary. (7-1-97)

e. Tags shall be affixed as close as safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or unintentional removal. (7-1-97)

21. Danger Tags: (7-1-97)

a. Danger tags should be used only where an immediate hazard exists where an immediate hazard presents a threat of death or serious injury to employees. Danger tags shall be used only in these situations. (see Figure 170.21-A) (7-1-97)

FIGURE 170.21-A



Predominantly red tag with lettering or symbols in a contrasting color.

b. There shall be no variation in the type of design of tags posted or hung to warn of specific dangers. (7-1-97)

c. All employees should be instructed that Danger tags indicate immediate danger and that special precautions are necessary. (7-1-97)

d. Danger tags shall be red, or predominantly red, with lettering or symbols in a contrasting color. (7-1-97)

22. Caution Tags: (7-1-97)

a. Caution tags shall be used in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury. Caution tags shall be use only in these situations. (see Figure 170.22-A). (7-1-97)

FIGURE 170.22-A



Predominantly yellow with lettering or symbols in a contrasting color.

- b.** All employees should be instructed that Caution tags indicate a possible hazard against which proper precautions should be taken. (7-1-97)
- c.** There shall be no variation in the type of design of tags posted or hung to warn of specific dangers. (7-1-97)
- d.** Caution tags shall be yellow, or predominantly yellow, with lettering or symbols in a contrasting color. (7-1-97)

23. Warning Tags: (7-1-97)

- a.** Warning tags may be used to represent a hazard level between "Caution" and "Danger", instead of the required "Caution" tag, provided that they have a signal word of "Warning", an appropriate major message, and otherwise meet the general tag criteria of this section. (See Figure 170.23-A) (7-1-97)

FIGURE 170.23-A



Predominantly orange with lettering or symbols in a contrasting color.

b. All employees should be instructed that Caution tags indicate a possible hazard against which proper precautions should be taken. (7-1-97)

c. There shall be no variation in the type of design of tags posted or hung to warn of specific dangers. (7-1-97)

d. Warning tags shall be orange, or predominantly orange, with lettering or symbols in a contrasting color. (7-1-97)

24. Radiation Tags: (7-1-97)

a. Radiation tags shall be used to identify the presence of a radiation hazards and to identify equipment, containers, rooms, or combinations thereof, that contain or are contaminated with hazardous radiation hazards. (7-1-97)

b. All employees should be instructed that radiation tags indicate a possible hazard against which proper precautions should be taken. (7-1-97)

c. There shall be no variation in the type of design of tags posted or hung to warn of specific dangers. (7-1-97)

d. The standard background for Radiation tags shall be yellow; the panel shall be reddish-purple. Any letters used against the yellow background shall be black. (7-1-97)

e. The standard radiation symbol shall be prominently displayed and of a size consistent with the size of the equipment or area in which it is to be used. (See Figure 170.24-A) (7-1-97)

FIGURE 170.24-A



Yellow background with reddish-purple symbol and letters contrasting background.

25. Biological Hazard Tags: (7-1-97)

a. Biological hazard tags shall be used to identify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, or combinations thereof, that contain or are contaminated with hazardous biological agents. (7-1-97)

b. Biological hazard tags shall be fluorescent orange or orange/red, or predominantly so, with lettering or symbol in a contrasting color. (7-1-97)

c. The standard biological hazard symbol shall be prominently displayed and of a size consistent with the size of the equipment or area in which it is to be used. (See Figure 170.26-A) (7-1-97)

FIGURE 170.25-A



Fluorescent orange or orange/red background with symbol and letters in a contrasting color.