

# SAFETY AND HEALTH STANDARDS

## COLOR CODING REQUIREMENTS

Effective Date: 12/11 | Standard: 15.6 | Document Number: **KUCSH0061** | Rev:04

### 15.6.1 **INTRODUCTION**

15.6.1.1 The use of color coding and labels enables quick recognition, provides a warning of danger where needed, and identifies classification of hazards.

### 15.6.2 **REQUIREMENTS**

15.6.2.1 Standard color coding will be used throughout KUC. [ANSI Standards](#) will be used as a guideline for application of this standard unless otherwise noted in the standard.

15.6.2.2 Marking a physical hazard with a warning can never be a substitute for elimination of the hazard, if possible. Color coding must remain clear and identifiable. Do not paint over any signs, labels or equipment tags.

15.6.2.3 **MACHINERY, EQUIPMENT & BUILDINGS** - Buildings are to be painted a color which blends in with the area's environment (e.g. tan).

- Where fire extinguishers are mounted on stationary structures, the site shall be painted red and an appropriate sign shall be installed.
- All walkways and designated lines for workshop floors or storage areas must be clearly marked by a safety yellow border, 4 inches wide.
- Safety yellow lines 4 inches wide shall be used to indicate areas which shall be left clear and where items shall not be stored. This includes floor areas below electrical panels and safety equipment, where ready access is essential at all times. In the case of electrical panels, this area should be not less than 36 inches in depth and 30 inches in width.
- The outer surface of machine guards and guard support frames shall be painted yellow.
- Equipment shall be identified with numbers and where necessary an abbreviated but clear description of the equipment. Letters shall not be smaller than one inch and should preferably be three inches high.

15.6.2.4 **PIPING** - Pipes are defined as conduits for the transport of gases, liquids, semi-liquids or fine particulate dust. For the purpose of this standard, piping systems shall include pipes of any kind and in addition, fittings, valves and pipe coverings. Supports, brackets or other accessories are specifically excluded from application of this standard.

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- 15.6.2.5 This standard considers legend to be primary and explicit for identification of contents. Positive identification of the contents of a piping system shall be by lettered legend giving the name of the contents in understandable form. Arrows shall be used to indicate direction of flow. Contents shall be identified by legend with sufficient additional details (such as temperature, pressure etc.) as necessary to identify the hazard. Legends shall be:
- Brief, informative, pointed and simple for greatest effectiveness.
  - Applied close to valves or flanges and adjacent to changes in direction, branches and where pipes pass through walls or floors.
  - Applied at intervals on straight pipe runs sufficient for identification.
    - Identification may be accomplished by stenciling and / or the use of tape or markers. Key shut-off valves, as identified in the Plant Emergency Response Plan, should be properly labeled.
- 15.6.2.6 Color should be used to identify characteristic hazards of the contents (see Table 1). Color should be displayed on or contiguous to the piping by any physical means, and its use shall be in combination with legend. Color may be used in contiguous total length coverage or in intermittent displays (See Exhibit 15.6.1).
- Contrast shall be provided between color field and legend for readability. Table 1 gives recommendations for color of legend on various color fields covered in this standard. Use of letters of standard style, in sizes of one-half inch or larger is recommended. For identification of materials in pipes of less than three-fourths inch in diameter and for valve and fitting identification, the use of a permanently legible tag is recommended.

**TABLE 1 - CLASSIFICATION OF MATERIALS HAZARDS AND DESIGNATION OF COLOR CODING**

Classification	Sub Classification	Color Scheme
<b>Materials Inherently Hazardous</b>	<b>Flammable or Explosive, Chemically Active Toxic, Extreme temperature / pressure, Radioactive</b> (Examples: LP Gas, natural gas, acetylene, hydrogen, oxygen, alcohol, oil, acids, caustics)	<b>Black on Yellow</b>
<b>Materials of Inherent Low Hazard</b>	<b>Liquid or liquid mixture</b> (Examples: Water, slurries, sewers & drains)	<b>White on Green</b>
	<b>Gas or gaseous mixture</b> (Examples: nitrogen, compressed air)	<b>White on Blue</b>

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<b>Fire Quenching Materials</b>	<b>Fire, Water, Foam CO<sub>2</sub>, Halon, FM 200 etc.</b>	<b>White on Red</b>
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- 15.6.2.7 Attention shall be given to visibility with reference to pipe markings. Where pipelines are located above or below normal line of vision, the lettering shall be placed below or above the horizontal centerline of the pipe.
  
- 15.6.2.8 Pipelines designed to operate at temperatures between 400F and 900F shall be painted aluminum in color.
  
- 15.6.2.9 Shower and / or eyewash facilities shall be painted green.
  
- 15.6.2.10 **PHYSICAL HAZARDS** - This section shall apply to the use of safety color coding for the identification of physical hazards, the location of safety equipment, protective equipment, stationary machinery, portable powered hand tools, signs and markers and applies to all existing structures, facilities, equipment and machinery as well as subsequent modifications and additions. All color coding for physical hazards shall use [ANSI](#) as a guideline.
  
- 15.6.2.11 Locations, objects or safety signs that are color coded and for which illumination must be provided shall be illuminated to levels which will permit positive identification of the color and the hazard or situation which the color identifies.
  
- 15.6.2.12 **"Red"** shall be the color for the identification of:
  - o Danger or Stop
  - o Emergency stop bars on hazardous machines.
  - o Stop buttons or electrical switches used for emergency stopping of machinery.
  - o Firefighting equipment.
  - o Safety cans for flammable or combustible materials should be red and must be identified by a yellow band around their middle with the contents of the container identified thereon.
  
- 15.6.2.13 **"Orange"** is recommended for designating dangerous parts of machines or energized equipment.
  
- 15.6.2.14 **"Yellow"** shall be the color for designating caution and marking physical hazards. Solid yellow, yellow and black stripes or yellow and black checkers shall be used for maximum contrast with the particular background. The following are examples of applications of the color.



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15.6.2.20 High noise areas shall be identified by means of symbolic safety signs. Traffic signs will be in accordance with federal standards. Refer to "Manual on Uniform Traffic Control Devices for Streets and Highways" for further detail.

## 15.6.3 **RESPONSIBILITIES**

15.6.3.1 It is the responsibility of the supervisor to understand and maintain the color standards specified in this document and to ensure that employees know the meaning of the colors used

### **REFERENCES:**

[American National Standards Institute \(ANSI\)](#)

OSHA 1910.144 Safety Color Code for Marking Physical Hazards  
Manual on Uniform Traffic Control Devices for Streets and Highways.  
Facilities Emergency Response Plans

### **REVISION HISTORY:**

MOC#	Description of Change	Prepared By	Date
18072	Scheduled Review and update. Add sections from Standard 15.8 (Walkways and Roadways for Pedestrian and Vehicular Traffic) which will be deleted. Also, format and add document number.	KUC Safety and Health Standards Committee	12/11

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Exhibit 15.6.1

### PIPE LEGENDS

