

# ANSI Z535 2007 Safety Symbol & Signage Revisions

## CHANGE: Conformance with ISO 3864-1 & 2 Standards

One of the major changes taking place in this standard is the approval or acceptance by ANSI of all the ISO 3864-2 formatted safety signs as a valid option for product safety labels in the US.

**3.1.1 ISO-formatted safety signs:** *Product safety information may be conveyed by ISO formatted safety labels in compliance with ISO 3864-2, Graphical Symbols - Safety colors and safety signs - Part 2: Design principles for product safety labels. from ANSI Z535 2007*

Product Safety Labels using the signal words shown on the **Illustration 1.1** below, can only be used on equipment sold in the USA and Canada, because they lack several components to comply with the international standards for equipment labeling (ISO 3864).

**Illustration 1.1 ANSI Z535.4 2002 & 2007 Compliant Safety Labels**



Product Safety Labels using the signal words and surround shape safety symbols shown below on the **Illustration 1.2** are in compliance with ISO 3864-2 Standard (as long as the safety symbol is contained in a surround shape like a yellow triangle, prohibition circle, or blue circle; and the safety alert symbol seen on the signal word is within a yellow triangle).

**Illustration 1.2 ANSI Z535.4 2007 & ISO 3864-2 Compliant Safety Labels**



## CHANGE: Safety Alert Symbol Use and Colors

Another change worthy of note is the clarification of the Safety Alert Symbol; use and respective colors and the incorporation of the ISO 3864-1 version. In the last revision, 2002, it only supplied an explanation of what the symbol should be and what it meant. This new revision (2007) on the other hand has taken a step further into clarifying when to use, how to use, what colors it should be, and also the option(s) that when used on the ANSI safety labels will be in compliance with ISO 3864-2.

**4.10 Safety Alert Symbol:** *a symbol which indicates a potential personal injury hazard. It is composed of an equilateral triangle surrounding an exclamation mark. The safety alert symbol shall not be used to alert persons to property-damage-only accidents.*

## From ANSI Z535 2007



for use with DANGER signal word: white triangle, red exclamation mark and red bkgd.



for use with WARNING signal word: black triangle with orange exclamation mark.



for use with CAUTION signal word: black triangle with yellow exclamation mark.



for use with DANGER, WARNING or CAUTION signal words: yellow background, black border and black exclamation mark



for use with DANGER, WARNING or CAUTION signal words: yellow background, black border and black exclamation mark with a yellow border around the black border.

### CHANGE: Review of the existing signal words and addition of NOTICE as a new signal word for product safety labels

This third change is the addition of "**NOTICE**" as a signal word for product safety labels to identify property-damage-only situations. The use of "**CAUTION**" (without exclamation mark) the to identify property-damage-only situations is still allowed, but as an alternate option to "**NOTICE**"

The 2002 revision stated that the signal words for product safety labels were: **DANGER**, **WARNING**, **CAUTION**. Where **CAUTION** could be used for property-damage-only accidents when used without the triangle and exclamation mark.

#### ANSI Z535 2007 Revision, Signal Word Definitions:



Conforms with  
ANSI Z535 2007 ONLY!



Conforms with  
ANSI Z535 2007 & ISO 3864-2

**DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.



Conforms with  
ANSI Z535 2007 ONLY!



Conforms with  
ANSI Z535 2007 & ISO 3864-2

**WARNING:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



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ANSI Z535 2007 ONLY!



Conforms with  
ANSI Z535 2007 & ISO 3864-2



ANSI Z535 2007 ONLY!  
For Property-Damage-Only Accidents

**CAUTION:** Indicates a hazardous situation, which if not avoided, could result in minor or moderate injury. It may also be used without the safety alert symbol as an alternative to "**NOTICE**"

# NOTICE

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**NOTICE:** is the preferred signal word to address practices not related to personal injury. The safety alert symbol should not be used with this signal word. As an alternative to “**NOTICE**”, the word “**CAUTION**” without the safety alert symbol may be used to indicate a message not related to personal injury.

## Sign Classification: Hazard Classification (Signal Words)

The first element to consider when designing a product safety label is to determine the likelihood and severity of a potential injury if a person does not follow the instructions contained on the safety label or sign. For product identification there are four Signal Words or Hazard Classifications used in the design of an **ANSI Z535.4 2007** compliant safety label: “**DANGER**”, “**WARNING**”, “**CAUTION**” or “**NOTICE**”

When more than one hazard exists on a product it is permissible to use one label, provided the information addresses each hazard and the signal word selected is based on the greatest level of hazard.

Safety Alert Symbols are used to warn of a potential personal injury hazard. This symbol is used in conjunction with the signal word or can be used alone. This symbol should be used on both product safety labels and in literature which can describe the potential hazard in greater detail.

## Formatting of ANSI Z535.4 Product Safety Labels:

Please note that ANSI Z535.4 requires all safety labels to have the following components: a signal word panel (signal word must have a preceding safety alert symbol) plus a message panel. A safety symbol panel may be used to communicate parts, or all, of the elements of a message panel.

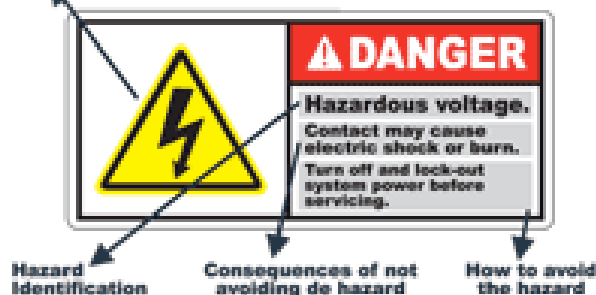
## ANSI Label Format

ANSI requires a product safety label to have a certain amount of information, which cannot be covered or contained in one single image representing the hazard and the avoidance of it, as ISO's approach of one single symbol label does. ANSI Z535.4 2002 encourages product manufacturers to include and use safety symbols as part of the label content, but the use of a symbol is still optional in this standard, while ISO's use of safety symbols, whether as a single-symbol product safety label or a combination label with supplementary text is mandatory.

### SIGNAL WORD PANEL (with Safety Alert Symbol)



### Safety Symbol



## ANSI Z535 Use of Safety Symbols

Safety symbols are graphic representations chosen to clearly convey a specific alerting message. The conveyed message of a safety symbol is to describe the type of hazard, potential consequences of the

hazard, or evasive/avoidance actions to be taken. When used, the Safety Symbol shall be compatible with the word message.

#### ANSI Z535.3 2002:

"Safety symbols are an optional component of the multi-panel safety sign, label and tag formats described in the ANSI Z535.2, 4, & 5 Standards. Safety symbols usually consist of a black image (or safety red for some symbols) on a white background.



#### ISO 3864-2 2002:

"When a safety label is to comprise a single symbol, the layout of the product safety label should use the shape and color as defined in ISO 3864-1."

ISO 3864-1 Definition of Safety Sign: "sign which gives a general safety message, obtained by a combination of a color and geometric shape and which, by the addition of a graphical symbol, gives a particular safety message."

"When a geometric shape is used around a symbol, the shape's corresponding safety color identifies the type of safety information to be conveyed by the symbol (e.g. hazard identification, prohibited action, or mandatory action).



#### NEW: Annex E "Risk Estimation and Signal Word Selection"

ANSI has added this Annex E to provide guidance when selecting and determining which signal word to use to identify a hazardous situation.

This Annex states:

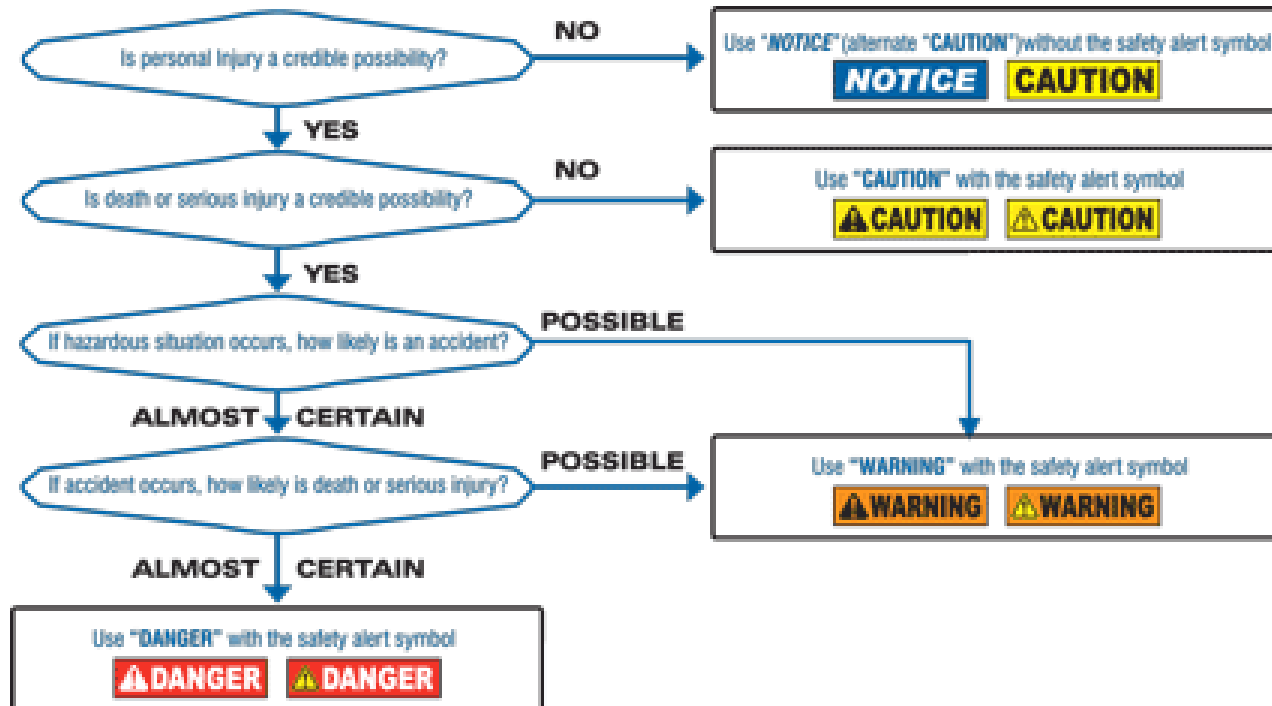
*“There are numerous methods for estimating the risk posed by a hazardous situation. This section outlines one method that is specifically designed to assist in assigning signal words according to the definitions in this standard. For more information about the risk estimation methods or models, see the references at the end of this annex.*

ANSI has classified “severity of harm” as three levels:

*E3.4.1.1 Death or serious Injury: Injury to humans that is more severe than minor or moderate injury. Harm classified as death or serious injury may also include property damage, or moderate or minor injuries that occur as a result of the same event. Examples of serious injuries include amputations, severe burns, and loss or impairment of vision or hearing.*

*E3.4.1.2 Moderate or minor injury: Injury to humans, not including death or serious injury. Harm classified as moderate or minor injury may also include property damage that occurs as a result of the same event. Minor or moderate injuries do not typically result in permanent disability or significant disfigurement or pain. Examples of minor or moderate injuries include cuts, scratches and irritation.*

*E3.4.1.3 Property Damage: Damage to property that does not include injury to humans.*



## ANSI Z535.4 2007 Signal Words Matrix

### E4 Signal Word Selection

*"A signal word is selected according to the risk of harm presented by the hazardous situation that the safety message addresses. That is, signal word selection is based on the risk posed if the safety message is not followed.*

#### E4.1 Signal Word Selection Matrices



*The following matrices show the signal words, colors and presence or absence of a safety alert symbol that are assigned for each combination of accident probability, worst credible harm, and probability of worst credible harm."*

| If Worst Credible Severity of Harm is<br>Death or Serious Injury. |       | Probability of Accident if<br>hazardous Situation is not Avoided                   |   |
|---|-------|--|---|
|   |       | WILL   | COULD   |
| Probability of Death or<br>Serious Injury<br>if Accident occurs   | WILL  |  |  |
|   | COULD |  |  |

If Worst Credible Severity of Harm is  
Moderate or Minor Injury.

For all Probabilities: 

If Worst Credible Severity of Harm is  
Property Damage.

Preferred →   
For all Probabilities:  
Alternate → 

## ANSI Z535 2007 Definitions

### 1. Signal Word:

Area of the safety sign that contains the signal word. For personal injury hazards, the signal word panel must contain the safety alert symbol. A signal word is selected according to the risk of harm presented by the hazardous situation that the safety message addresses. That is, signal word selection is based on the risk posed if the safety message is not followed. This is the word that calls attention to the safety sign and designates a degree or level of hazard seriousness. The signal words for product safety labels are “DANGER”, “WARNING”, “CAUTION” and “NOTICE”.



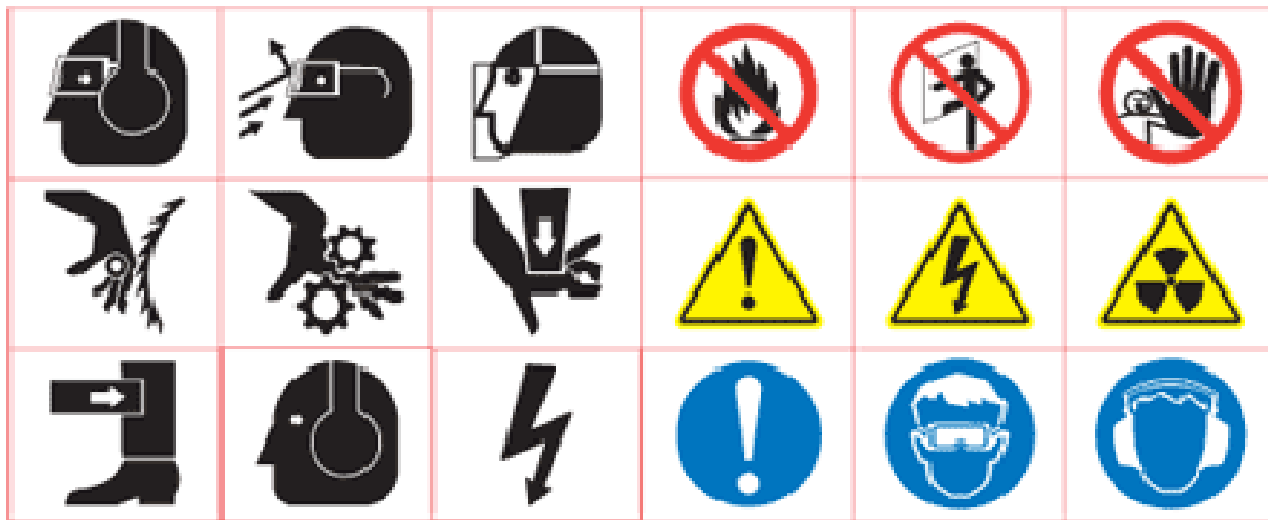
### 2. Safety Alert Symbol:

a symbol which indicates a potential personal injury hazard. It is composed of an equilateral triangle surrounding an exclamation mark. The safety alert symbol shall not be used to alert persons to property-damage-only accidents.



### 3. Safety Symbol:

Safety symbols are graphic representations chosen to clearly convey a specific alerting message. The conveyed message of a safety symbol is to describe the type of hazard, potential consequences of the hazard, or evasive/avoidance actions to be taken. When used, the Safety Symbol shall be compatible with the word message.



ANSI Z535  
Safety Symbols

ISO 3864-2  
Safety Symbols

### 4. Surround Shape:

ISO allows the use of symbol only labels and/or safety symbols with supplementary text labels. When a product safety label contains a single symbol, the layout of the product safety label should use one of the surround shapes below. The surround shape and color is determined by the type of safety symbol:

Hazard Alerting, Prohibition, Mandatory Action or Information



Source: [www.safetysign.com](http://www.safetysign.com)