



## Compliance – Resource Bulletin

# Aircraft Hazmat Signs

### Overview:

“Hazmat” is an acronym for “hazardous materials.” The Department of Transportation (DOT) defines a hazardous material as any substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The DOT administers the Hazardous Materials Regulations (HMR) that specifies requirements for the safe transportation of hazardous materials in the United States via aircraft, rail car, marine vessels, and motor vehicles. The HMR are found in Title 49, Parts 171-180 of the Code of Federal Regulations.

The HMR classifies an exhaustive list of hazmat as to the hazard risk they pose, and defines the communication standards used to convey that risk through required package labeling and placarding. The enforcement agency for the transport of cargo hazmat by air is the Federal Aviation Administration (FAA).

Hazmat also may be present in commercial passenger aircraft. Regulations for this sector of air commerce are administered by The Department of Homeland Security (DHS) and enforced by the Transportation Security Administration (TSA) and the FAA. TSA regulations for civil aviation security are found in Title 49, Parts 1540-1550.

### Resources:

<b>Hazardous Materials Regulations:</b> (Free)	<a href="http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title49/49cfrv2_02.tpl">http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title49/49cfrv2_02.tpl</a>
<b>Hazardous Materials Information Center:</b> (Free)	<a href="https://www.phmsa.dot.gov/standards-rulemaking/hazmat/hazardous-materials-information-center">https://www.phmsa.dot.gov/standards-rulemaking/hazmat/hazardous-materials-information-center</a>
<b>CFR Title 49 175:</b> (Free)	<a href="http://www.gpo.gov/fdsys/granule/CFR-2011-title49-vol2/CFR-2011-title49-vol2-part175">http://www.gpo.gov/fdsys/granule/CFR-2011-title49-vol2/CFR-2011-title49-vol2-part175</a>
<b>TSA Regulations:</b> (Free)	<a href="http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title49/49cfr1540_main_02.tpl">http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title49/49cfr1540_main_02.tpl</a>



# Compliance – Resource Bulletin

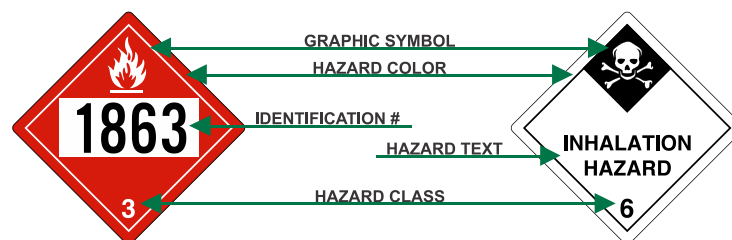
(Aircraft Hazmat Signs Continued)

## Design of Aircraft Hazmat Signs:

- **HAZMAT SIGNS FOR CARGO FACILITIES:** Each person who engages in the acceptance or transport of cargo for transportation by aircraft must display notices to persons offering such cargo of the requirements applicable to the carriage of hazmat aboard aircraft, and the penalties for failure to comply with those requirements, at each facility where cargo is accepted. Each notice must be legible, and be prominently displayed so it can be seen. (CFR 49 175.26)
- **HAZMAT LABELS FOR CARGO PACKAGES:** All hazmat cargo must be packaged and labeled before transport by air according to the standards found in the DOT’s HMR. The HMR classifies each hazmat in its Hazardous Materials Table. The table also specifies requirements for the labeling of the shipping package containing hazmat.
  - **BASIC SHAPE:** Most labels are a square diamond on point. (172.407). Some common exceptions are:
    - A “Consumer Commodity” label is a rectangle of specific size and color. (172.316)
    - A “Cargo Aircraft Only” label is a rectangle of specific size and color. (173.407)
    - A “Keep Away From Heat” label is a rectangle of specific size and color. (172.317)
    - A “Caution” label indicating a lithium metal or ion battery is a square of specific size and color. (DOT rulemaking #PHMSA -2009-0095)
  - **HAZARD CLASSIFICATION:** Each material in The Hazardous Material Table (HMT) is given a hazard class number with description. The nine classes are:
 

1. Explosives	6. Toxic(Poisonous) & Infectious Substances
2. Gas	7. Radioactive Materials
3. Flammable Liquids	8. Corrosive Materials
4. Other Flammable Substances	9. Miscellaneous Dangerous Goods
5. Oxidizing Substances & Organic Peroxides	

Some materials are so hazardous that they are not allowed to be transported. They are designated as “Forbidden” in the HMT. The HMT serves as the template document for the layout of every hazardous material label. All the information required on the label: color, graphic symbol, text, class and identification numbers are specified for each material in the HMT. (172.101) **(see graphic aid below)**





## Compliance – Resource Bulletin

### (Aircraft Hazmat Signs Continued)

- **LABEL ELEMENTS:** Each label is composed of a number of elements that communicate all the hazard information required. (172.101) (172.411-450)
  - **Hazard Color:** The color of the label is stipulated by the hazard class as well as the specific hazard the material may pose. Example: All gases are in class 2 but a flammable gas label is red while a toxic gas label is white.
  - **Graphic Symbol:** Most labels display a graphic symbol of specific size, design, and color indicating the specific hazard. If required, these symbols appear at the 12 o'clock position on the label.
  - **Hazard Text:** Labels may describe the hazard in specific text directly below the graphic symbol.
  - **Hazard Class:** The numeric hazard class (1 thru 9) is displayed on the label at the 6 o'clock position. Some classes have subclass designations that result in the display of additional digits or letters. Example: 6.1 or 1.4G.
  - **Identification Numbers:** When required, identification numbers may be displayed in the center of the label. (172.332)
- **HAZMAT SIGNS FOR PASSENGER FACILITIES:** Each person who engages in for-hire air transportation of passengers must display notices of the requirements applicable to the carriage of hazmat aboard aircraft, and the penalties for failure to comply with those requirements. Each notice must be legible, and be prominently displayed so it can be seen by passengers in locations where the aircraft operator issues tickets, checks baggage, and maintains aircraft boarding areas. (CFR 49 175.25)
- **REGULATORY NOTE:** The United States has implemented the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). OSHA has revised its Hazard Communication Standard (HCS) that specifies signs and labels for the identification of chemical hazards in the workplace to conform to GHS. The revised standard was to be fully implemented by 7/1/2016. The DOT, which regulates hazmat in the transport sector, has already modified all of its regulations found in HMR; 49 CFR parts 100-180 (referenced in this bulletin) to comply with the GHS. DOT regulations concerning environmental hazardous substances will be addressed after the EPA passes final judgment on the GHS standards.

**For Aircraft Hazmat Signs visit our store:**

<https://www.compliancesigns.com/products/chemical/aircraft-hazardous-materials-signs>