Hazardous Materials Placarding Requirements
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Objectives

- DETERMINE proper PLACARDING requirements for non bulk and bulk shipments.
- IDENTIFY special PLACARDING provisions.
- IDENTIFY some critical PLACARDING exceptions.
Why Placard?

- Hazard Communication
- Response Mitigation
- Regulatory Requirement
Placarding – Part 172, Subpart F

Each person who offers or transports hazardous materials **must** comply with the placarding requirements.
Placarding Requirements

Placarding requirements do not apply to:

- Small quantities of certain hazard classes
- Limited quantities
- Infectious substances
- Other regulated material (ORM-Ds)
- Combustible liquids in non-bulk packagings
- Materials prepared in accordance with §173.13
Prohibited Placarding

Placards *may not* be displayed on a transport vehicle, portable tank, or freight container *unless*:

- Transported material is a hazardous material
- Placarding represents a hazard of the material
- Placarding conforms to the regulations
General Placarding Requirements

Placard a container or vehicle:
- on each side and each end
- for any quantity of hazardous material

Some exceptions exist based on:
- the hazard and quantity present
ID Numbers

ID Numbers may be placed on placards, However this is a “MARKING” Requirement. Conditions are found in Section 172.332 – 172.338

- Placed on Placard
- Orange Panel
- White Square on Point
When ID Numbers Must Be Used

- **Non-Bulk Packages if:**
  - 8,882 LBS of a Single Commodity, loaded at one facility, containing no other materials.
  - Except:
    - Class 1, 7, or any other material not requiring ID #s.
    - Small quantities, LTD QTY’s, Combustibles, etc.

- **Bulk Packages:** (all)
  - 4 Sides if > 1,000 Gallons
  - 2 Sides if < 1,000 Gallons
Non-Bulk Examples
Bulk Examples

> 1000 Gallons
4 Sides

< 1000 Gallons
2 Sides
# Placarding Tables 172.504 (e)

## Table 1

<table>
<thead>
<tr>
<th>Category of material (Hazard class or division number and additional description, as appropriate)</th>
<th>Placard name</th>
<th>Placard design section reference ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>EXPLOSIVES 1.1</td>
<td>172.522</td>
</tr>
<tr>
<td>1.2</td>
<td>EXPLOSIVES 1.2</td>
<td>172.522</td>
</tr>
<tr>
<td>1.3</td>
<td>EXPLOSIVES 1.3</td>
<td>172.522</td>
</tr>
<tr>
<td>2.2</td>
<td>POISON GAS</td>
<td>172.540</td>
</tr>
<tr>
<td>4.3</td>
<td>DANGEROUS WHEN WET</td>
<td>172.548</td>
</tr>
<tr>
<td>5.2 (Organic peroxide, Type B. liquid or solid, temperature-controlled)</td>
<td>ORGANIC PEROXIDE</td>
<td>172.552</td>
</tr>
<tr>
<td>6.1 (Material poisonous by inhalation (see §171.6 of this subchapter))</td>
<td>POISON INHALATION HAZARD</td>
<td>172.555</td>
</tr>
<tr>
<td>7 (Radioactive Yellow III label only)</td>
<td>RADIOACTIVE †</td>
<td>172.556</td>
</tr>
</tbody>
</table>

† RADIOACTIVE placard also required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with §173.427(b)(4) and (e) or (d) of this subchapter.

## Table 2

<table>
<thead>
<tr>
<th>Category of material (Hazard class or division number and additional description, as appropriate)</th>
<th>Placard name</th>
<th>Placard design section reference ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4</td>
<td>EXPLOSIVES 1.4</td>
<td>172.523</td>
</tr>
<tr>
<td>1.5</td>
<td>EXPLOSIVES 1.5</td>
<td>172.524</td>
</tr>
<tr>
<td>1.6</td>
<td>EXPLOSIVES 1.6</td>
<td>172.525</td>
</tr>
<tr>
<td>2.1</td>
<td>FLAMMABLE GAS</td>
<td>172.532</td>
</tr>
<tr>
<td>2.2</td>
<td>NON-FLAMMABLE GAS</td>
<td>172.528</td>
</tr>
<tr>
<td>3</td>
<td>FLAMMABLE</td>
<td>172.542</td>
</tr>
<tr>
<td>4.1</td>
<td>COMBUSTIBLE</td>
<td>172.544</td>
</tr>
<tr>
<td>4.2</td>
<td>FLAMMABLE SOLID</td>
<td>172.546</td>
</tr>
<tr>
<td>5.1</td>
<td>SPONTANEOUSLY COMBUSTIBLE</td>
<td>172.547</td>
</tr>
<tr>
<td>5.2 (Other than organic peroxide, Type B. liquid or solid, temperature-controlled)</td>
<td>ORGANIC PEROXIDE</td>
<td>172.552</td>
</tr>
<tr>
<td>6.1 (Other than material poisonous by inhalation)</td>
<td>POISON</td>
<td>172.554</td>
</tr>
<tr>
<td>(None)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>CORROSIVE</td>
<td>172.558</td>
</tr>
<tr>
<td>9</td>
<td>Class 9 (see §172.604(1)(B))</td>
<td>172.500</td>
</tr>
<tr>
<td>ORM-D</td>
<td></td>
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Table 1 – Placard Any Quantity

Note specifics for Division 5.2, 6.1 and Class 7

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<td>POISON INHALATION HAZARD</td>
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</tr>
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<td>RADIOACTIVE *</td>
<td>172.556</td>
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\*RADIOACTIVE placard also required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with §173.427(b)(4) and (5) or (6) of this subchapter.

§172.504(a)
Placard for Table 2 Materials
(unless excepted)
454 kg (1,001 lbs.) aggregate gross weight or more must be placarded

§172.504(a)
Table 2 Exceptions

Less than 454 kg (1,001 lbs.) aggregate gross weight may be placarded, but is not required

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</tr>
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§172.504(c)
Use of Dangerous Placard

The Dangerous Placard may be used if the shipment contains non-bulk packages of two or more classes, requiring different placards from Table 2.

§172.504(b)
Exceptions for Dangerous Placard

May be used when:

1. 2 or more hazardous materials
2. Only Table 2 items
3. Non-Bulk Packages
4. < 2,205lbs. Aggregate gross weight loaded at one facility

Domestic Use Only!!!

§172.504(b)
Dangerous Placard Exception

MUST placard for hazard when:

- > 2,205 lbs or more of one class from Table 2
- Loaded at multiple facilities
- Can not use Dangerous Placard in these situations

§172.504(b)
Dangerous Placard is NOT allowed for Table 1

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</tr>
<tr>
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<td>172.555</td>
</tr>
<tr>
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<td></td>
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1 RADIOACTIVE placard also required for specific activity material and surface contaminated objects transported in accordance with this chapter.

§172.504(b)
Subsidiary Placards

49 CFR only requires placards for three subsidiary hazards:

- Poison inhalation
- Uranium hexafluoride
- Dangerous when wet

Internationally if you must label you must placard!
No Exceptions

§172.505
Subsidiary Placards

Remember!
Subsidiary hazards may be placarded.
Subsidiary Placards

Primary and subsidiary placards must display their appropriate class or division number.
Prohibited Placarding

No person may display a placard on a transport unit unless:

- Commodity is a hazardous material
- Placard represents the hazard
- Placard conforms w/ 49 CFR
  (Unless placarded IAW the IMDG Code or TDG)
WARNING

The following exceptions pertain to U.S. Federal Regulations. Some may not be suitable for international commerce.
Exceptions Limited Quantities

Not required to be placarded
Exceptions Explosives

When more than one division of Class 1 Materials are shipped together, only the placard for the lowest division need be displayed.

Cite: 49CFR 172.504(f)(1)

Example-

- Explosives
  - 1.1
  - 1

- Blasting Agents
  - 1.5
  - 1

- Explosives
  - 1.1
  - 1

Placard Required
Explosives

Class 1 materials shipped by vessels must have the compatibility group letter displayed.

172.504(g)

D
Exceptions Division 1.4S

No required label means no required placard.

**EX:** Cartridges for Small Arms

172.504(f)(6)
Placarding Exceptions

The following are excepted from the placard requirements:

- Domestically Division 6.2 Infectious Substances (Placard required for International Shipment)
- Limited Quantities
- Small/Excepted Quantities
- ORM-D
- Combustible Liquids in Non-Bulk Packaging

172.500(b)
Exceptions Residues

Placards not required domestically when:

- Non-bulk packages contain residue of a table 2 commodity.
- Internationally, packages containing residue shall be treated the same as when full unless steps have been taken to nullify the hazard.
- Bulk Packages must remain placarded
Exceptions Combustible Liquids

FLAMMABLE placard may be used in place of a COMBUSTIBLE placard on cargo tanks, portable tanks and tanks only.

172.504(f)(2)(i)
Oxygen Exception Residues

Requires Text Unless UN ID Number is Displayed

May use the Oxygen Placard for domestic shipment only

172.504(f)(7)
Exceptions Class 9

Not required to be placarded when shipping Domestically

Note:

Bulk shipments must still be marked with the UN number.
Exceptions Division 6.1

For domestic shipments, text may be modified as shown on a Toxic material assigned to PG III

172.504(f)(10)
REMEMBER!!!

- The majority of these exceptions are for Domestic Transportation Only.

- International regulations may require placards or may not allow certain modifications.
Display of Placards

- Must be securely attached
- On each side and each end
- Located clear of devices such as ladders, pipes, doors, etc.

172.516(c)
Display of Placards

- Away from marking which could reduce the effectiveness
- Displayed horizontally, reading from left to right.
Placard Specifications

Placards must be:

- Able to withstand 30 day exposure to the elements
- Designed IAW 49 CFR 172.519
- Must measure at LEAST 250mm x 250mm (9.84 inches) by 49 CFR

Note: Regulations allow use of International placards and may be used in most situations.
Domestically Bulk Packages containing “Inhalation Hazards” Domestic placard must be used.

172.504 (f)
Placarding Empty or Unpurged Tanks

Tanks remain placarded unless:

- Cleaned and purged
- Reloaded with a non-hazardous material
- Another class of hazardous material
Visibility

- Each placard must be readily visible from the direction it faces.
- Placards must be on each side and each end.
- If coupled to another motor vehicle or rail car, visibility is not required from the direction it faces.
Attaching Placards

- Attach securely
- Maintain in good condition
- Clear of advertising, dirt and water, and tarps, etc.
- Printed and displayed horizontally
Placarding – A Joint Responsibility

- It is the responsibility of shipper or carrier to make sure the correct placards are offered or affixed.
- Since placarding is complex and crucial, do not rely solely on the information in this presentation.
- Use the HMR and remember to refer to both placarding Table 1 and Table 2 and the exceptions in 172.504(f).
Where to Find More Information…

http://www.phmsa.dot.gov/hazmat
NEW: Hazardous Materials Transportation Training Modules

Free, interactive training modules available online:
http://phmsa.dot.gov/hazmat
Hazardous Material Info-Center
1-800-HMR-4922
(1-800-467-4922)
E-mail: infocntr@dot.gov

- Obtain answers to HMR questions
- Request copies of Federal Register, special permits or training materials
- Fax on Demand