Maritime Transportation of Hazardous Materials
Objectives

- Identify Shipper’s Responsibilities
- Identify Carrier’s Responsibilities
- Identify Coast Guard’s Responsibility
HAZMAT requirements by Vessel are tougher to:

- Keep the public safe;
- Keep crewmembers safe;
- Protect other shipper’s cargo;
- Protect the vessel;
- Keep all commerce flowing
Vessel Shipment Regulations

Domestic

- 49 CFR Subchapter C (Vessel Specific §176)

International

- International Maritime Dangerous Goods Code &
  49 CFR 171.22-25
### Domestic vs. International

<table>
<thead>
<tr>
<th>49 CFR 171.22</th>
<th>IMDG Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Allows shippers to use the IMDG Code</td>
<td>- IMO requires shippers to use the IMDG Code when one of the countries involved is party to SOLAS</td>
</tr>
<tr>
<td>- Extra conditions and limitations apply</td>
<td>- U.S. is party to SOLAS</td>
</tr>
</tbody>
</table>
Maritime Transportation of Hazardous Materials

Vessel Requirements

Why are vessel requirements more restrictive?
A ship at sea may move in six different directions simultaneously.
Shipments by vessel are unique. One container may have items from several different shippers and each vessel carries several thousand containers.
Where is your cargo?
Yes, they can float!

Maritime Transportation of Hazardous Materials
Transportation Emergencies

M/V Hyundai Fortune

Maritime Transportation of Hazardous Materials
Transportation Emergencies

M/V Hyundai Fortune

Maritime Transportation of Hazardous Materials
Maritime Transportation of Hazardous Materials

Transportation Emergencies

M/V Pennsylvania
Transportation Emergencies

M/V Pennsylvania

Maritime Transportation of Hazardous Materials
Transportation Emergencies

M/V Pennsylvania

Maritime Transportation of Hazardous Materials
Transportation Emergencies

M/V Pennsylvania

Maritime Transportation of Hazardous Materials
Shipper’s Responsibilities
Shipper’s Responsibility

Five Primary Responsibilities

- Classify
- Communicate
- Package
- Stow
- Segregate

Maritime Transportation of Hazardous Materials
Shipper’s Responsibility

Classification

§172.101

- Regulated by Water ($W$)
- Proper Shipping Name ($PSN$)
- Hazardous Substance ($RQ$)
- Marine Pollutant ($p$, $pp$)
Communication

§172.203

- Hazardous Substance (RQ)
- Name of Shipper
- Minimum Flash Point if 61°C or below
- Segregation group for n.o.s. entries
- Marine Pollutant
Shipper’s Responsibility

Packaging

§173 & §178

- No differences for vessel shipments
§176.69

- Stowed in accordance with orientation markings
- Packages blocked, braced, dunnaged and protected to prevent shifting in any direction or any damage
Shipper’s Responsibility

**Stowage**

§ 176.76

- Detailed containerized cargo blocking, bracing, dunnage, and stowage requirements outlined
Maritime Transportation of Hazardous Materials
Maritime Transportation of Hazardous Materials
Shipper’s Responsibility

Segregation

§176.83

- Segregations requirements more restrictive by vessel than highway or rail
### Table 176.83—General Segregation Requirements for Hazardous Materials

[Segregation must also take account of a single secondary hazard label, as required by paragraph (a)(8) of this section.]

| Class | 1.1 | 1.2 | 1.5 | 1.3 | 1.4 | 1.6 | 2.1 | 2.2 | 2.3 | 3 | 4.1 | 4.2 | 4.3 | 5.1 | 5.2 | 6.1 | 6.2 | 7 | 8 | 9 |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|---|---|---|
| **Explosives, 1.1, 1.2, 1.5** | (*) | (*) | (*) | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | X |
| **Explosives, 1.3** | (*) | (*) | (*) | 4 | 2 | 2 | 4 | 3 | 3 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | X |
| **Explosives, 1.4, 1.6** | (*) | (*) | (*) | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | X | 4 | 2 | 2 | X |
| **Flammable gases 2.1** | 4 | 4 | 2 | X | X | X | 2 | 1 | 2 | X | 2 | 2 | X | 4 | 2 | 1 | X |
| **Non-toxic, non-flammable gases 2.2** | 2 | 2 | 1 | X | X | X | 1 | X | 1 | X | X | 1 | X | 2 | 1 | X | X |
| **Poisonous gases 2.3** | 2 | 2 | 1 | X | X | X | 2 | X | 2 | X | 2 | X | 2 | 1 | X | 2 | 1 | X |
| **Flammable liquids 3** | 4 | 4 | 2 | 2 | 1 | 2 | X | X | 2 | 1 | 2 | 2 | X | 3 | 2 | X | X |
| **Flammable solids 4.1** | 4 | 3 | 2 | 1 | X | X | X | X | 1 | X | 1 | 2 | X | 3 | 2 | 1 | X |
| **Spontaneously combustible substances 4.2** | 4 | 3 | 2 | 2 | 1 | 2 | 2 | 1 | X | 1 | 2 | 2 | 1 | 3 | 2 | 1 | X |
| **Substances which are dangerous when wet 4.3** | 4 | 4 | 2 | X | X | X | 1 | X | 1 | X | 2 | 2 | X | 2 | 2 | 1 | X |
| **Oxidizing substances 5.1** | 4 | 4 | 2 | 2 | X | X | 2 | 1 | 2 | 2 | 2 | 2 | X | 2 | 1 | 3 | 1 | 2 | X |
| **Organic peroxides 5.2** | 4 | 4 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | X | 1 | 3 | 2 | 2 | X |
| **Poisons 6.1** | 2 | 2 | X | X | X | X | 1 | X | 1 | 1 | X | 1 | X | 1 | X | X | X | X | X |
| **Infectious substances 6.2** | 4 | 4 | 4 | 4 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | X | 3 | 3 | X |
| **Radioactive materials 7** | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | X | 3 | X | 2 | X |
| **Corrosives 8** | 4 | 2 | 2 | 1 | X | X | X | 1 | 1 | 1 | 2 | 2 | X | 3 | 2 | X | X |
| **Miscellaneous dangerous substances 9** | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

Numbers and symbols relate to the following terms as defined in this section:

1—“Away from.”
2—“Separated from.”
3—“Separated by a complete compartment or hold from.”
4—“Separated longitudinally by an intervening complete compartment or hold from.”
5—“The segregation, if any, is shown in the §172.101 table.”

*—See §176.144 of this part for segregation within Class 1.
Shipper’s Responsibility

- **Segregation**
  - Example: A shipment of Division 2.2 non-flammable gases and Class 3 flammable liquids must be segregated “Away from” each other.

§176.83(c)(2)(ii)
- “Away from” = horizontal separation of 3 meters (10 feet)
Shipper’s Responsibility

Segregation

§176.83(d)

No HAZMAT can be stowed in the same container for which any segregation is required.
Container Packing Certificate

§176.27

- The person responsible for loading a freight container with HAZMAT for transportation onboard a manned vessel must complete a signed certificate and supply it to the carrier/vessel.
Container Packing Certificate

§176.27(c)(1)

Certificate addresses:

- Structural serviceability of container
- Segregation requirements
- Freight container HAZCOM requirements
- Packages inspected and in good condition
§176.27(c)(2)

Certification may simply state:

“It is declared that the packing of the container has been carried out in accordance with the applicable provisions of 49 CFR and the IMDG Code”
The shipper must provide the vessel a copy of the **shipping paper**, **shipper’s certification** and a **container packing certificate** to guarantee to the vessel’s crew that all requirements have been followed.
§171.22

- DOT allows the use of the IMDG code within the United States
- Establishes additional requirements to be met when using the IMDG Code
§171.22(c)  
If 49 CFR regulates the commodity, but IMDG **does not**, 49 CFR **must** be used

§171.22(d)  
If IMDG regulates the commodity but 49 CFR does not, it **may** be shipped as a Hazardous Material in the US
Basic Requirements

§171.22(e)

- Materials that are **forbidden** under 49 CFR cannot be shipped under the IMDG Code
Basic Requirements

§171.22(f)

- Importers are required to notify foreign shippers of additional U.S. requirements.

- All shipping paper entries and package markings must be in English. Additional languages are permitted.
Basic Requirements

§171.22(g)

- Emergency response information
- Incident reporting requirements
- Packaging requirements for export shipments
- Training and Security requirements
Additional Requirements - General

§171.25

- Shipment must conform to §176
- Shipment must comply with all other subsequent modal regulations (§174, §175, & §177) for intended U.S. route
Additional Requirements-Packages

§171.23(a)
- Cylinders

§171.25(c)
- Bulk packages & Tanks
Additional Requirements - Materials

§ 171.23(b)

- Class 1 Explosives
- Class 2 Aerosols
- Division 5.2 Organic Peroxides
- Class 6 Poisons and PIHs
- Class 7 Radioactives
Additional Requirements-Materials

§ 171.23(b)
- Air bag inflators/ seat belt pretensioners
- Chemical oxygen generators
- Self-reactive materials
- Hazardous Substances
- Hazardous Wastes
- Marine Pollutants
Carrier’s Responsibilities
§176.5 states “This subchapter (49 CFR) applies to all vessels, foreign or domestic, when in the navigable waters of the United States.”
Carrier’s Responsibility

Three Primary Responsibilities

✓ Stow
✓ Segregate
✓ Communicate
§172.101 (HMT) Column 10A
- General vessel stowage requirement codes-A, B, C, 01, 02, etc..

§172.101 (k)
- Defines stowage codes

§176.63
- Defines physical stowage locations
### § 172.101 Hazardous Materials Table

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Hazardous materials descriptions and proper shipping names</th>
<th>Hazard class or Division</th>
<th>Identification Numbers</th>
<th>PG</th>
<th>Label Codes</th>
<th>Special provisions (§ 172.102)</th>
<th>Packaging (§ 173.)</th>
<th>Quantity limitations (see §§ 173.27 and 175.75)</th>
<th>Vessel stowage (10A)</th>
<th>Location (10B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Acetal, see p-Nitrosodimethylaniline.</td>
<td>II 3</td>
<td>IB2, T4, TP1</td>
<td></td>
<td>150</td>
<td>202</td>
<td>242</td>
<td>5 L 60 L</td>
<td>E</td>
<td>34</td>
</tr>
<tr>
<td>A</td>
<td>Acetaldehyde, electric, see Batteries, wet etc.</td>
<td>I 3</td>
<td>A3, B16, T11, TP2, TP7</td>
<td></td>
<td>None</td>
<td>201</td>
<td>243</td>
<td>Forbidden 30 L</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Acetaldehyde, pressurized, pneumatic or hydraulic (containing non-flammable gas), see Articles pressurized, pneumatic or hydraulic (containing non-flammable gas).</td>
<td>III 9</td>
<td>IB8, IP3, IP7, TP3, TP7</td>
<td></td>
<td>155</td>
<td>204</td>
<td>240</td>
<td>200 kg 200 kg</td>
<td>A</td>
<td>34</td>
</tr>
<tr>
<td>A</td>
<td>Acetaldehyde oxime</td>
<td>III 3</td>
<td>B1, IB3, T4, TP1</td>
<td></td>
<td>150</td>
<td>203</td>
<td>242</td>
<td>60 L 220 L</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Acetic acid, glacial or Acetic acid solution, with more than 80 percent acid, by mass.</td>
<td>II 8, 3</td>
<td>A3, A6, A7, A10, B2, IB2, T7, TP2</td>
<td></td>
<td>154</td>
<td>202</td>
<td>243</td>
<td>1 L 30 L</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass.</td>
<td>II 8</td>
<td>A3, A6, A7, A10, B2, IB2, T7, TP2</td>
<td></td>
<td>154</td>
<td>202</td>
<td>242</td>
<td>1 L 30 L</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass.</td>
<td>II 8</td>
<td>IB3, T4, TP1</td>
<td></td>
<td>154</td>
<td>203</td>
<td>242</td>
<td>5 L 60 L</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Acetic anhydride</td>
<td>II 8, 3</td>
<td>A3, A6, A7, A10, B2, IB2, T7, TP2</td>
<td></td>
<td>154</td>
<td>202</td>
<td>243</td>
<td>1 L 30 L</td>
<td>A</td>
<td>40</td>
</tr>
<tr>
<td>B</td>
<td>Acetone, cyanohydridn, stabilized</td>
<td>II 3</td>
<td>IB2, T4, TP1</td>
<td></td>
<td>150</td>
<td>202</td>
<td>242</td>
<td>5 L 60 L</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Acetone, cyanohydridn, stabilized</td>
<td>I 6.1</td>
<td>2, B9, B14, B32, B76, B77, N34, T20, TP2, TP13, TP38, TP45</td>
<td></td>
<td>None</td>
<td>227</td>
<td>244</td>
<td>Forbidden</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Acetone, oils</td>
<td>I 3</td>
<td>IB2, T4, TP1, TPR</td>
<td></td>
<td>150</td>
<td>202</td>
<td>242</td>
<td>5 L 60 L</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>
§172.101 (HMT) Column 10A

- Identifies where on the ship the cargo may be stowed
- “A” means on deck or under deck on a passenger or cargo vessel
ON DECK!?
§172.101 (HMT) Column 10B
- Special vessel stowage and segregation requirement codes
  - 1 through 141
  - 1E through 28E

§176.84
- Table of provisions
### § 172.101 Hazardous Materials Table

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Hazardous materials descriptions and proper shipping names</th>
<th>Hazard class or Division</th>
<th>Identification Numbers</th>
<th>PG</th>
<th>Label Codes</th>
<th>Special provisions (§172.102)</th>
<th>Packaging (§173.***</th>
<th>Quantity limitations (see §§173.27 and 175.75)</th>
<th>Vessel stowage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acetal, see p-Nitrosodimethylaniline.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accumulators, electric, see Batteries, wet etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accumulators, pressurized, pneumatic or hydraulic (containing non-flammable gas), see Articles pressurized, pneumatic or hydraulic (containing non-flammable gas).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Acetal</td>
<td>3</td>
<td>UN1088</td>
<td></td>
<td>IB2, T4, TP1</td>
<td>150 202 242</td>
<td>5 L 60 L E</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetaldehyde</td>
<td>3</td>
<td>UN1089</td>
<td></td>
<td>A3, B16, T11, TP2, TP7</td>
<td>None 201 243</td>
<td>Forbidden 30 L E</td>
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<tr>
<td></td>
<td>Acetaldehyde ammonia</td>
<td>9</td>
<td>UN1841</td>
<td></td>
<td>IB8, IP3, IP7, T1, TP33</td>
<td>155 204 240</td>
<td>200 kg 200 kg A</td>
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<tr>
<td></td>
<td>Acetaldehyde oxime</td>
<td>3</td>
<td>UN2332</td>
<td></td>
<td>B1, IB3, T4, TP1</td>
<td>150 203 242</td>
<td>60 L 220 L A</td>
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<tr>
<td></td>
<td>Acetic acid, glacial or Acetic acid solution, with more than 80 percent acid, by mass.</td>
<td>8</td>
<td>UN2750</td>
<td></td>
<td>A3, A6, A7, A10, B2, IB2, T7, TP2</td>
<td>154 202 243</td>
<td>1 L 30 L A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass.</td>
<td>8</td>
<td>UN2790</td>
<td></td>
<td>A3, A6, A7, A10, B2, IB2, T7, TP2</td>
<td>154 202 242</td>
<td>1 L 30 L A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass.</td>
<td>8</td>
<td>UN2790</td>
<td></td>
<td>IB3, T4, TP1</td>
<td>154 203 242</td>
<td>5 L 60 L A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetic anhydride</td>
<td>8</td>
<td>UN1715</td>
<td></td>
<td>A3, A6, A7, A10, B2, IB2, T7, TP2</td>
<td>154 202 243</td>
<td>1 L 30 L A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetone</td>
<td>6.1</td>
<td>UN1541</td>
<td></td>
<td>IB2, T4, TP1</td>
<td>150 202 242</td>
<td>5 L 60 L B</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Acetone cyanohydric, stabilized</td>
<td>3</td>
<td>UN1090</td>
<td></td>
<td>B2, B14, B32, B76, B77, N34, T20, TP2, TP13, TP38, TP45</td>
<td>None 227 244</td>
<td>Forbidden B</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetone oils</td>
<td>3</td>
<td>UN1091</td>
<td></td>
<td>IB2, T4, TP1, TPR</td>
<td>150 202 242</td>
<td>5 L 60 L B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
§172.101 (HMT) Column 10B

- Identifies special provisions for loading and stowage
- 40- Stow “clear of living quarters”

Other §176.84 codes:
- 73- Stow “separated from” chlorates
- 103- Only to be loaded under dry conditions
§176.24 & 27

A vessel may not accept a hazardous material for transport unless they receive

- Shipping Papers w/ Shippers Declaration
- Container Packing Certificate
§176.30

- The carrier shall prepare a dangerous cargo manifest, list, or stow plan to include only material regulated by 49 CFR or IMDG Code.
- Contains same information as found on shipping papers.
- Includes stowage and segregation information.
- Each carrier shall retain a copy for at least one year.
# Dangerous Cargo Manifest (DCM)

## Dangerous Goods Declaration

I CERTIFY THAT THIS DANGEROUS GOODS MANIFEST CONSISTS OF ................ PAGE(S).

Declaration to be made in respect of cargo being exported from Hong Kong

I HEREBY DECLARE THAT THE CONTENTS OF THE CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME(S), THAT THE SHIPMENT IS PACKAGED IN SUCH A MANNER AS TO WITHSTAND THE ORDINARY RISKS OF HANDLING AND TRANSPORT BY SEA HAVING REGARD TO THE PROPERTIES OF THE GOODS TO BE CARRIED AND THAT THE GOODS ARE CLASSIFIED, DOCUMENTED, PACKAGED, MARKED, LABELLED/PLACARDED, STOWED AND SEGREGATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MERCHANT SHIPPING (SAFETY) (DANGEROUS GOODS AND MARINE POLLUTANTS) REGULATION, MADE UNDER THE MERCHANT SHIPPING (PREVENTION AND CONTROL OF POLLUTION) ORDINANCE, CAP 413.

Declaration to be made in respect of cargo being brought into Hong Kong as either Import Cargo or Transit Cargo

I HEREBY DECLARE THAT I HAVE RECEIVED FROM THE SHIPMASTER A DECLARATION THAT THE GOODS ARE CLASSIFIED, DOCUMENTED, PACKAGED, MARKED, LABELLED/PLACARDED, STOWED AND SEGREGATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL MARITIME DANGEROUS GOODS CODE. (Note: The Director of Marine may call for the production of this declaration.)

<table>
<thead>
<tr>
<th>CONTAINER NO.</th>
<th>NO. AND KIND OF PACKAGES</th>
<th>PROPER SHIPPING NAME</th>
<th>IMO CLASS (Hazardous)</th>
<th>UN NO.</th>
<th>PACKING GROUP</th>
<th>SUB-SIDIARY RISK</th>
<th>FLASH POINT (C.C.)</th>
<th>MARINE POLLUTANT</th>
<th>DG NET GROSS</th>
<th>NET (Explosives)</th>
<th>STOWAGE LOCATION</th>
<th>PORT OF LOADING</th>
<th>PORT OF DISCHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDMU2324309</td>
<td>300 1A</td>
<td>BENZALDEHYDE</td>
<td>9</td>
<td>1990</td>
<td>III</td>
<td></td>
<td>64C</td>
<td></td>
<td>81,900</td>
<td>020106</td>
<td>Dubai</td>
<td>L.B.</td>
<td></td>
</tr>
<tr>
<td>AZPU3334305</td>
<td>200 4G</td>
<td>Kerosene Solution</td>
<td>3</td>
<td>1223</td>
<td>III</td>
<td></td>
<td>58C</td>
<td></td>
<td>716</td>
<td>210780</td>
<td>PRK</td>
<td>L.B.</td>
<td></td>
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<td>AZPU0955876</td>
<td>200 4G</td>
<td>Kerosene Solution</td>
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<td>1223</td>
<td>III</td>
<td></td>
<td>58C</td>
<td></td>
<td>716</td>
<td>210782</td>
<td>PRK</td>
<td>L.B.</td>
<td></td>
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<td>OHSE2030991</td>
<td>2160 4G</td>
<td>ADHESIVES</td>
<td>3</td>
<td>1133</td>
<td>III</td>
<td>(-23C)</td>
<td></td>
<td></td>
<td>10,549</td>
<td>070988</td>
<td>ROK</td>
<td>OAK</td>
<td></td>
</tr>
</tbody>
</table>

To: Director of Marine

NAME OF COMPANY: Harper & Brothers Shipping Co.
NAME & SIGNATURE OF PERSON: H. Melville
MAKING THIS DECLARATION (Block Capitals)
TITLE OF DECLARANT: Vessel Agent
DATE: 10 June 2009
Bays

Even numbers are 40’ container

<table>
<thead>
<tr>
<th>02</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
</tr>
<tr>
<td>01</td>
</tr>
</tbody>
</table>

Odd numbers are 20’ Container

Note that every other even number is omitted (DO NOT count these when doing stowage)

<table>
<thead>
<tr>
<th>28</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>08</td>
<td>04</td>
</tr>
</tbody>
</table>

Rows and Tiers

Row Numbers
Odd numbers are on the starboard side
Even numbers are on the port side

Tier Numbers
Below deck are numbered 02, 04, 06
Above deck are numbered 82, 84, 86

Maritime Transportation of Hazardous Materials
§ 176.100

- Subpart G contains detailed requirements for vessel shipments of explosives
  - Permits to load or off-load 1.1 and 1.2 materials
  - Permits to load or off-load certain 1.5 and 5.1 materials
  - Supervisory Details
  - Magazine types and requirements
§ 176.200

- Subpart H contains detailed requirements for vessel shipments of compressed gasses
  - Cylinders prevented from making direct contact with vessel’s deck
  - Specific blocking and bracing requirements
  - On-deck only stowage for flammable gasses (2.1)
Other Detailed Requirements

§176.400- Class 4 & 5, Division 1.5 materials

§176.600- Division 2.3 and 6.1 materials

§176.700- Class 7 materials

§176.800- Class 8 materials

§176.900- Cotton & Vegetable fibers, Motor vehicles, Asbestos
Coast Guard’s Responsibilities
Primary Responsibilities

- Protect the maritime community
- Protect the American public
- Protect the environment
- Standardize enforcement
- Eliminate delays
- Educate shippers and carriers
- Ensure cooperation
- Federal Hazardous Materials Safety Act
- Ports & Waterways Safety Act
- Executive Order 10173
- International Safe Container Act
Hazardous Material Transportation Law
49 CFR 100-185

The basic statute regulating hazardous materials transportation in the United States. Coast Guard has authority to enforce regulations pertaining to hazardous materials carried by vessel.
Ports & Waterways Safety Act
33 CFR 160

Allows the Coast Guard to:

“to insure the safety of vessels and waterfront facilities, and the protection of the navigable waters and resources”
To ensure the 4th Amendment of the constitution is protected, the Coast Guard must follow strict guidelines when inspecting containers that are not identified as carrying Hazardous Materials.

Coast Guard Policy provides legal guidance to field units.
International Safe Container Act
49 CFR 450-453

Covers freight containers used in international service, not domestic, and used to validate structural serviceability standards.
Thank You

This presentation was developed to educate shippers and carriers of hazardous materials who utilize America’s maritime transportation system. This presentation should not be used as regulatory reference. Always refer to 49 CFR and IMDG Code when offering or transporting hazardous materials.

Any questions, comments, or concerns can be addressed to the U.S. Coast Guard Container Inspection Training and Assistance Team (CITAT) at:

USCG CITAT Supervisor
6500 S. MacArthur Blvd, RTI-120
Oklahoma City, OK 73169
(405) 954-8985

U.S. Coast Guard CITAT website, www.uscg.mil/hq/citat
Questions?

Maritime Transportation of Hazardous Materials