

# Maritime Transportation of Hazardous Materials



Homeland  
Security

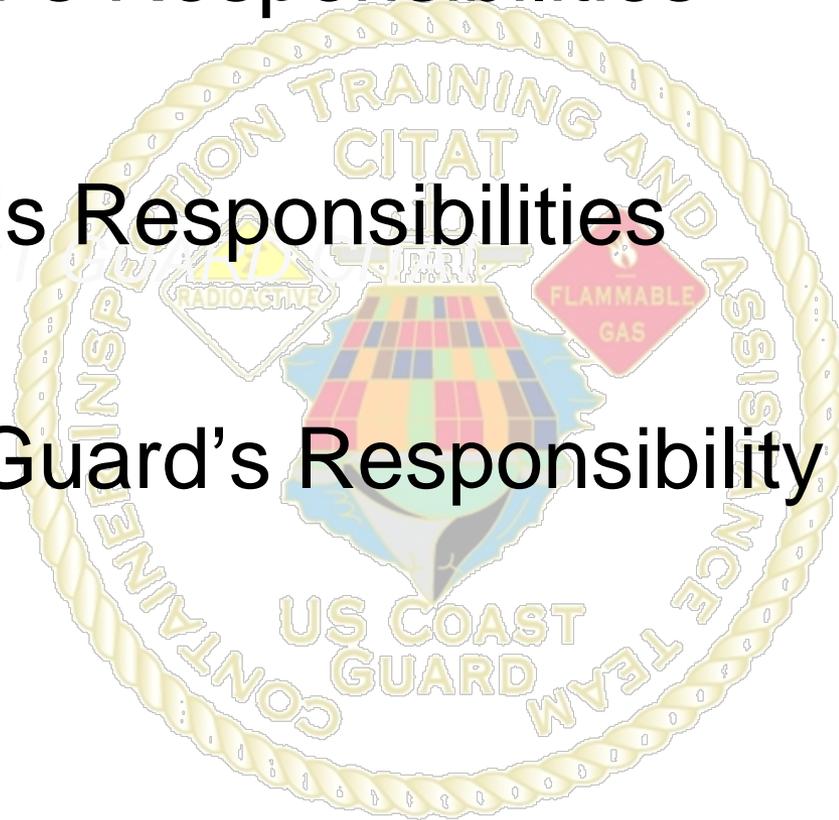
***U.S. COAST GUARD***



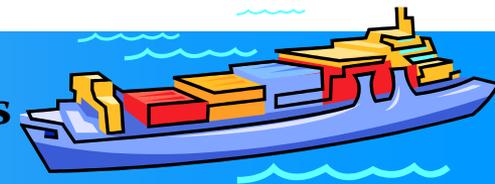


# Objectives

- ☑ Identify Shipper's Responsibilities
- ☑ Identify Carrier's Responsibilities
- ☑ Identify Coast Guard's Responsibility



Maritime Transportation of Hazardous Materials





# Stringent Vessel Requirements

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



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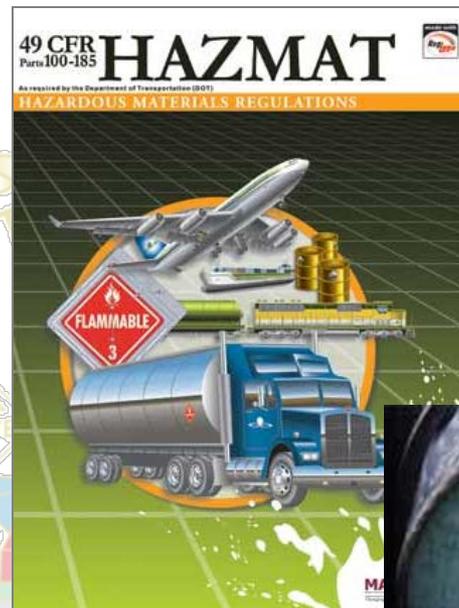




# Vessel Shipment Regulations

## Domestic

- 49 CFR Subchapter C  
(Vessel Specific §176)



## International

- International Maritime Dangerous Goods Code & 49 CFR 171.22-25



Maritime Transportation of Hazardous Materials





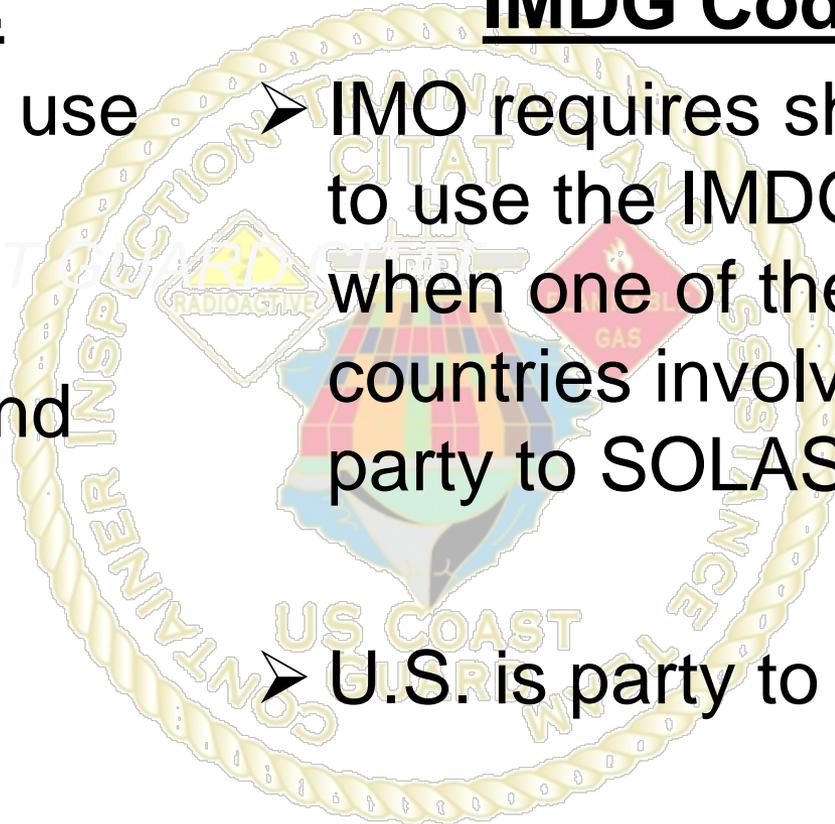
# Domestic vs. International

## 49 CFR 171.22

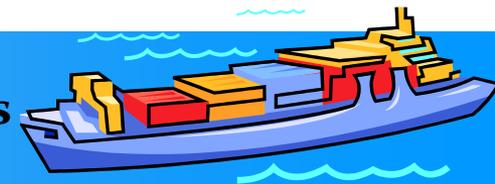
- Allows shippers to use the IMDG Code
- Extra conditions and limitations apply

## IMDG Code

- IMO requires shippers to use the IMDG Code when one of the countries involved is party to SOLAS
- U.S. is party to SOLAS



Maritime Transportation of Hazardous Materials



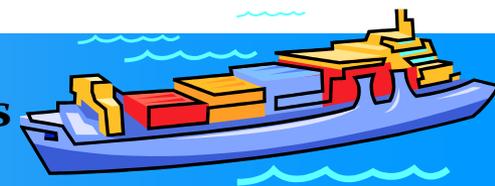


# Vessel Requirements

US COAST GUARD CITAT



Maritime Transportation of Hazardous Materials



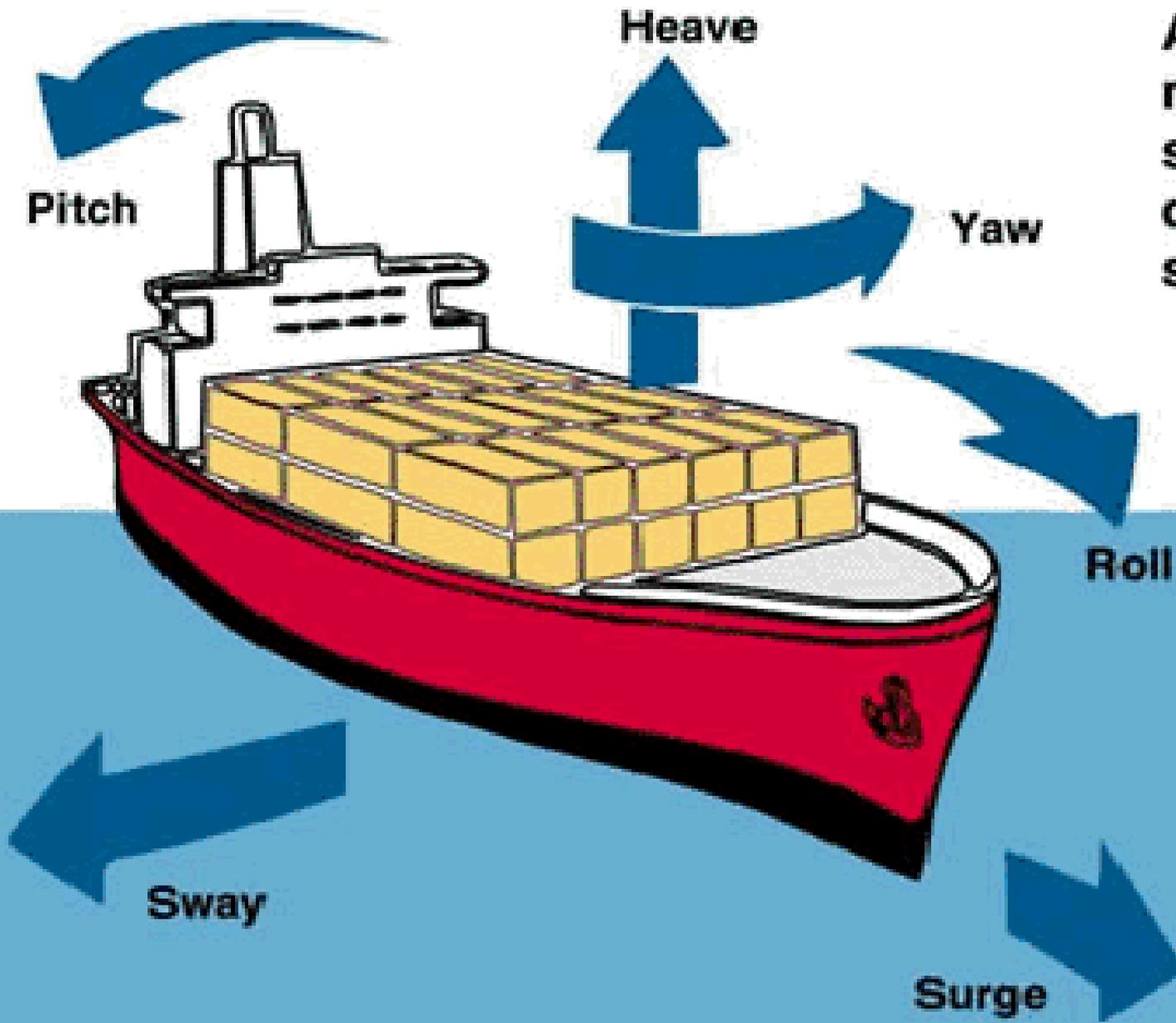


# Vessel Requirements



**Maritime Transportation of Hazardous Materials**





**A ship at sea may move in six different directions simultaneously.**



# Vessel Shipments

Shipments by vessel are unique. One container may have items from several different shippers and each vessel carries several thousand containers.



Maritime Transportation of Hazardous Materials





# Where is your cargo?

US COAST GUARD CITAT



Maritime Transportation of Hazardous Materials





*Yes, they can float!*

US COAST GUARD CITAT



**Maritime Transportation of Hazardous Materials**



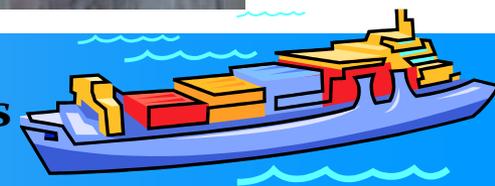


# Transportation Emergencies

US COAST GUARD CITAT



**Maritime Transportation of Hazardous Materials**





# Transportation Emergencies

US COAST GUARD CITAT



M/V Hyundai Fortune



Maritime Transportation of Hazardous Materials





# Transportation Emergencies

U.S. COAST GUARD CITAT



M/V Hyundai Fortune



Maritime Transportation of Hazardous Materials





# Transportation Emergencies

US COAST GUARD CITAT



M/V Hyundai Fortune



Maritime Transportation of Hazardous Materials





# Transportation Emergencies

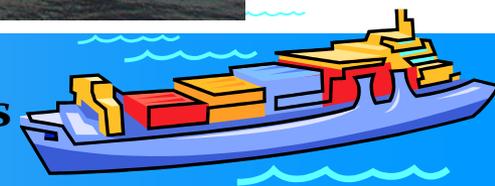
U.S. COAST GUARD CITAT



M/V Pennsylvania



Maritime Transportation of Hazardous Materials

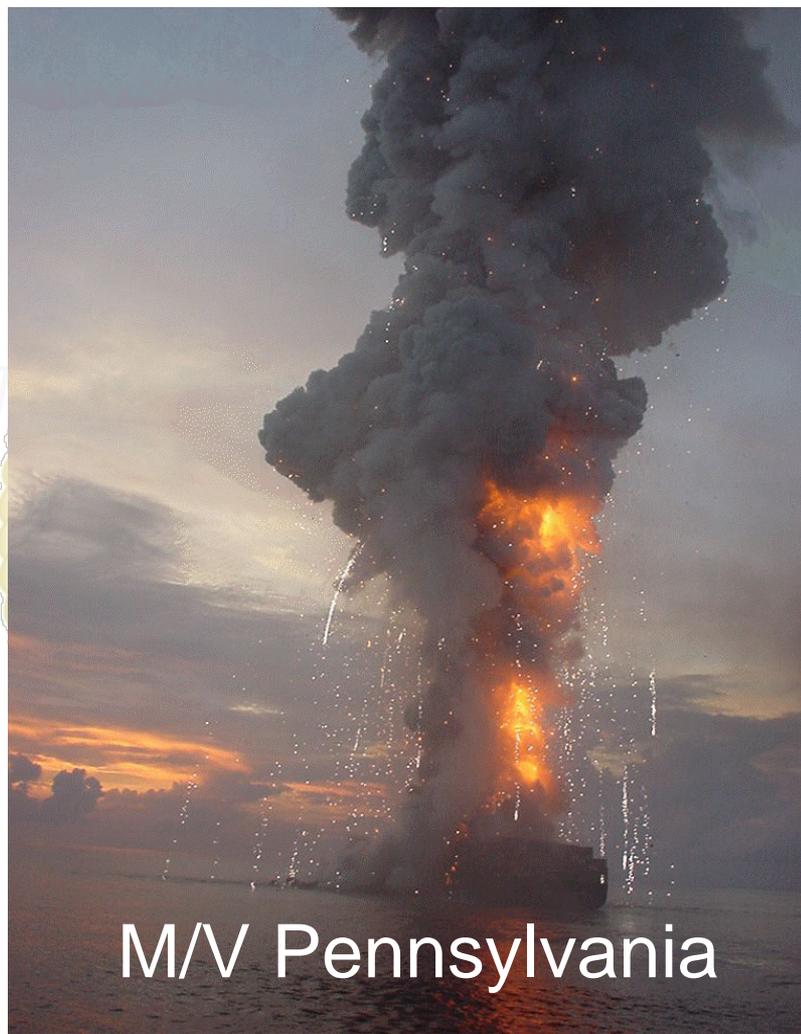




# Transportation Emergencies

US COAST GUARD CITAT

US COAST



M/V Pennsylvania



Maritime Transportation of Hazardous Materials





# Transportation Emergencies

US COAST GUARD CITAT



M/V Pennsylvania



Maritime Transportation of Hazardous Materials





# Transportation Emergencies

US COAST GUARD CITAT



M/V Pennsylvania



Maritime Transportation of Hazardous Materials





# Transportation Emergencies

US COAST GUARD CITAT



M/V Pennsylvania



Maritime Transportation of Hazardous Materials



# Shipper's Responsibilities



Homeland  
Security

***U.S. COAST GUARD***





# Shipper's Responsibility

## Five Primary Responsibilities

- ✓ Classify
- ✓ Communicate
- ✓ Package
- ✓ Stow
- ✓ Segregate



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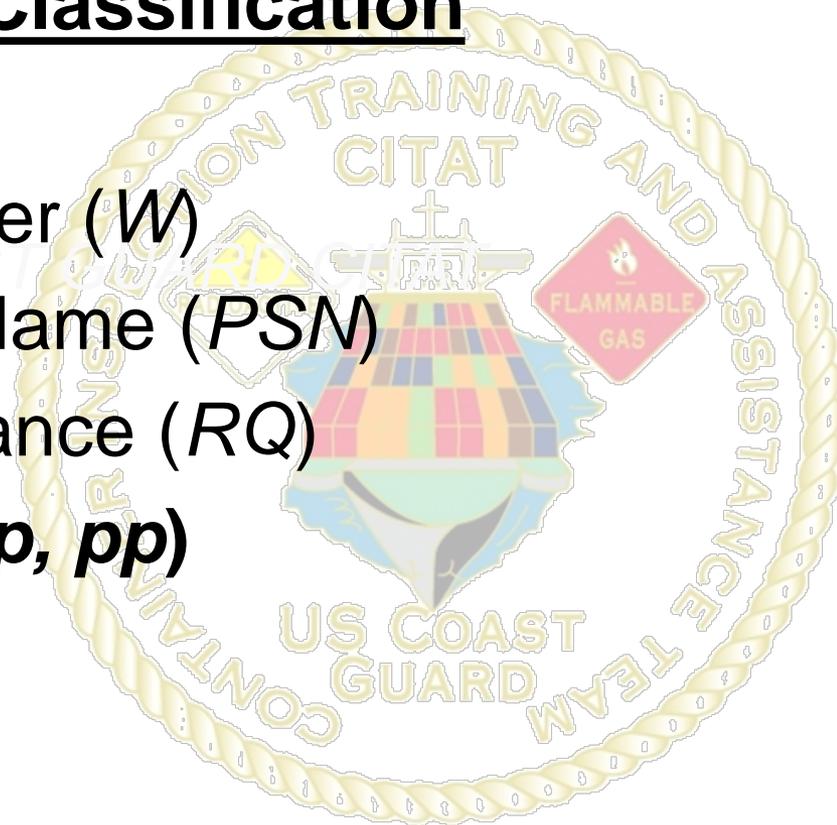


# Shipper's Responsibility

## Classification

§172.101

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



Maritime Transportation of Hazardous Materials



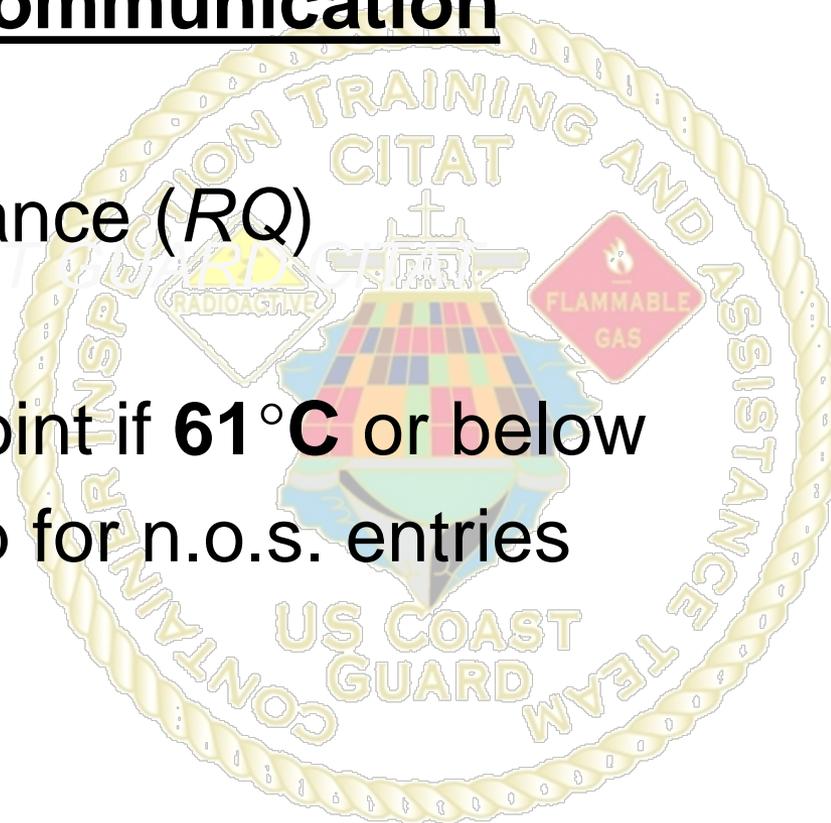


# Shipper's Responsibility

## 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



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# Shipper's Responsibility

## Packaging

§173 & §178

- No differences for vessel shipments



Maritime Transportation of Hazardous Materials



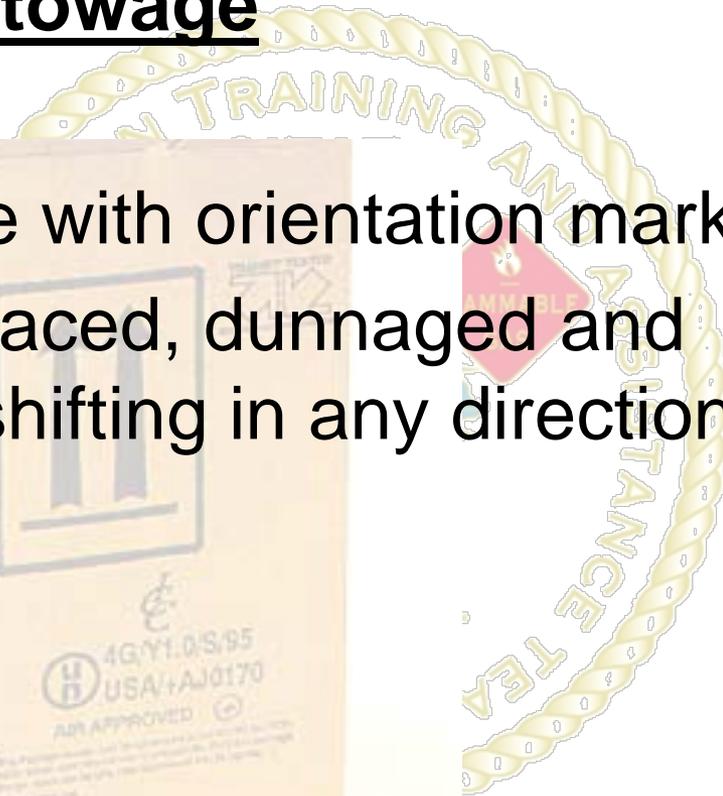
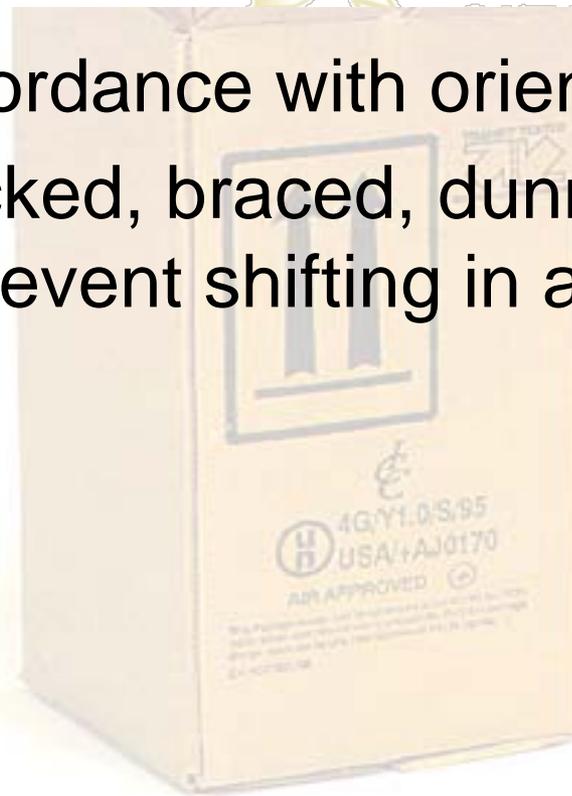


# Shipper's Responsibility

## Stowage

§176.69

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



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# Shipper's Responsibility

## Stowage

§176.76

- Detailed containerized cargo blocking, bracing, dunnage, and stowage requirements outlined



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**Maritime Transportation of Hazardous Materials**



**GENSTAR**

Genstar  
Container  
Corporation

San Francisco  
California,  
U.S.A.



GENSTAR



**Maritime Transportation of Hazardous Materials**







# Shipper's Responsibility

## Segregation

§176.83

- Segregations requirements more restrictive by vessel than highway or rail



Maritime Transportation of Hazardous Materials



**TABLE 176.83(b)—GENERAL SEGREGATION REQUIREMENTS FOR HAZARDOUS MATERIALS**  
 [Segregation must also take account of a single secondary hazard label, as required by paragraph (a)(6) 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	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	X	2	X	2	1	X	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	X	2	1	3	1	2	X
Organic peroxides 5.2	4	4	2	2	1	2	2	2	2	2	2	X	1	3	2	2	X
Poisons 6.1 .....	2	2	X	X	X	X	X	X	1	X	1	1	X	1	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

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."
- X—The segregation, if any, is shown in the § 172.101 table.
- \*—See § 176.144 of this part for segregation within Class 1.



## Maritime Transportation of Hazardous Materials





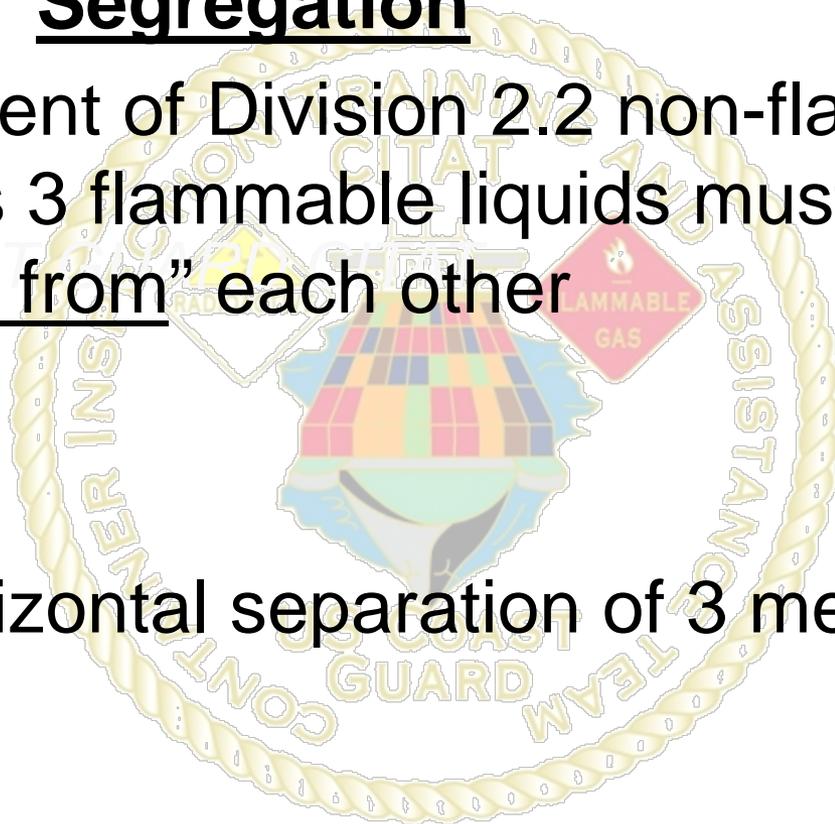
# Shipper's Responsibility

## ▪ Segregation

- Example: A shipment of Division 2.2 non-flammable gasses 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



Maritime Transportation of Hazardous Materials



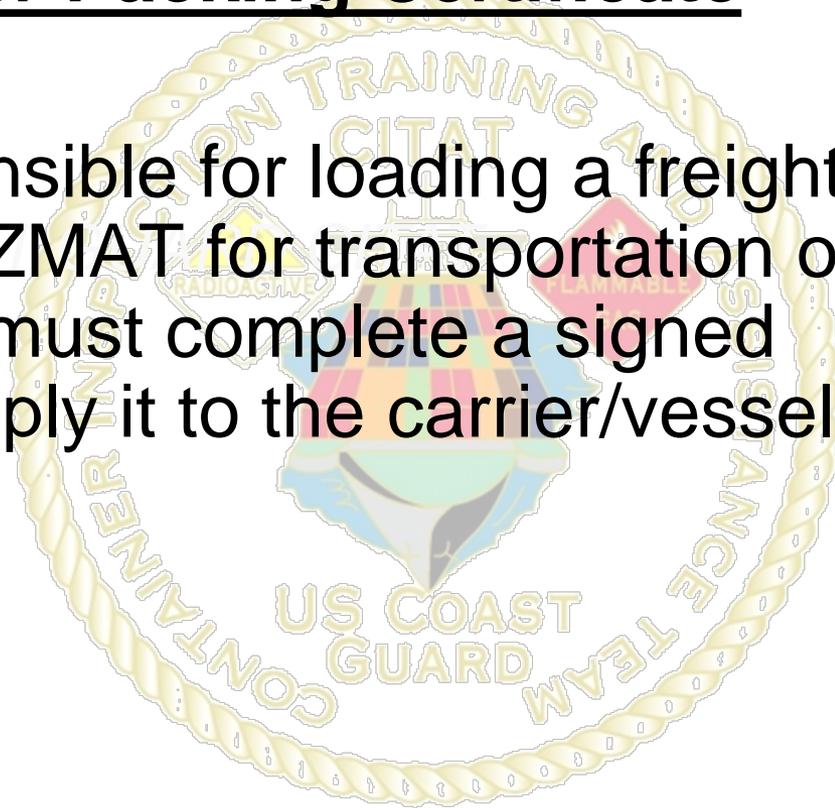


# Shipper's Responsibility

## 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.



Maritime Transportation of Hazardous Materials





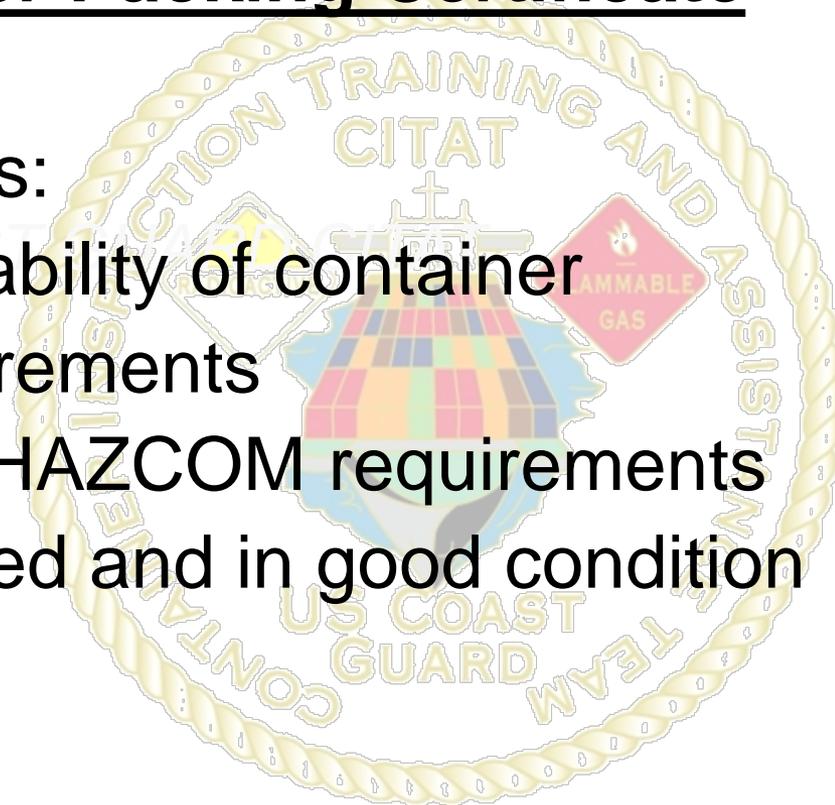
# Shipper's Responsibility

## 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



Maritime Transportation of Hazardous Materials





# Shipper's Responsibility

§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”

## CONTAINER PACKING CERTIFICATION OR VEHICLE PACKING DECLARATION

PERSON RESPONSIBLE FOR PACKING THE CARGO TRANSPORT UNIT SHOULD COMPLETE THE CHECKLIST AND SIGN THE CERTIFICATION.

IT IS HEREBY DECLARED THAT THE UNDERSIGNED HAS VISUALLY INSPECTED CARGO TRANSPORT UNIT NUMBER 7GHU25311-1 AND CERTIFIES THAT:

- THE CARGO TRANSPORT UNIT WAS CLEAN, DRY, AND APPARENTLY FIT TO RECEIVE THE GOODS.
- IF THE CONSIGNMENT INCLUDES GOODS OF CLASS 1, OTHER THAN DIVISION 1.4, THE CARGO TRANSPORT UNIT IS STRUCTURALLY SERVICEABLE IN CONFORMITY WITH SECTION 7.4.2.
- GOODS WHICH SHOULD BE SEGREGATED HAVE NOT BEEN PACKED TOGETHER ONTO OR IN THE CARGO TRANSPORT UNIT, (UNLESS APPROVED BY THE COMPETENT AUTHORITY CONCERNED IN ACCORDANCE WITH 7.2.2.3)
- ALL PACKAGES HAVE BEEN EXTERNALLY INSPECTED FOR DAMAGE, LEAKAGE OR SFTING, AND ONLY SOUND PACKAGES HAVE BEEN LOADED.
- CRATES HAVE BEEN STOWED IN AN UPRIGHT POSITION, UNLESS OTHERWISE AUTHORIZED BY THE COMPETENT AUTHORITY.
- ALL PACKAGES HAVE BEEN PROPERLY PACKED ONTO OR IN THE CARGO TRANSPORT UNIT AND SECURED.
- WHEN DANGEROUS GOOD ARE TRANSPORTED IN BULK PACKAGINGS, THE CARGO HAS BEEN EVENLY DISTRIBUTED. THE CARGO TRANSPORT UNIT AND THE PACKAGES THEREIN ARE PROPERLY MARKED, LABELED AND PLACARDED.
- WHEN SOLID CARBON DIOXIDE (CO<sub>2</sub> - DRY ICE) IS USED FOR COOLING PURPOSES, THE CARGO TRANSPORT UNIT IS EXTERNALLY MARKED OR LABELED IN A CONSPICUOUS PLACE, SUCH AS AT THE DOOR END, WITH THE WORDS: "DANGEROUS CO<sub>2</sub> GAS (DRY ICE) INSIDE. VENTILATE THOROUGHLY BEFORE ENTERING".
- THE DANGEROUS GOODS TRANSPORT DOCUMENT REQUIRED IN 5.4.1 HAS BEEN RECEIVED FOR EACH DANGEROUS GOODS CONSIGNMENT PACKED ONTO OR IN THE CARGO TRANSPORT UNIT.

NAME / STATUS, COMPANY / ORGANIZATION OF SIGNATORY:  
ZIEGLER CHEMICAL

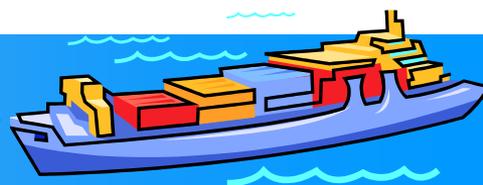
PLACE AND DATE:  
600 PROSPECT AVENUE, PISCATAWAY 11-11-05

SIGNATURE ON BEHALF OF PACKER:  
*[Signature]*

IMDG CODE CHAPTER 5.4. CONTAINER PACKING CERTIFICATE 5.4.1



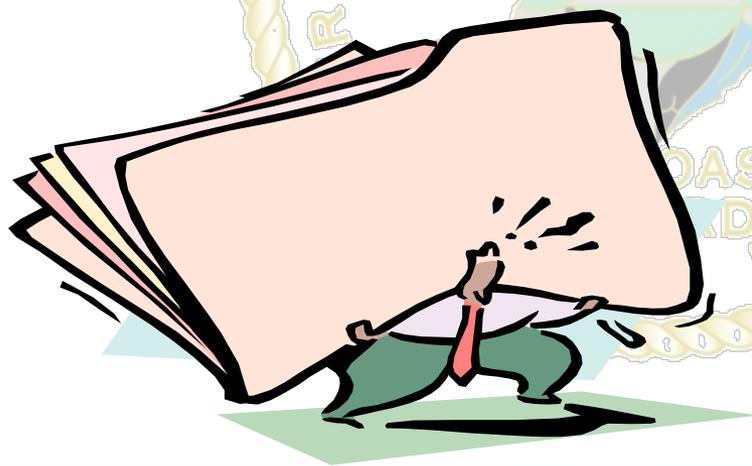
Maritime Transportation of Hazardous Materials



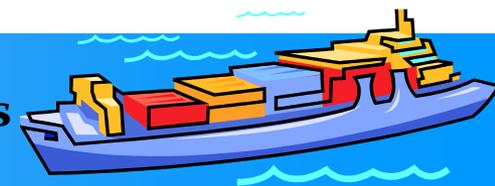


# Shipper's Responsibility

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.



Maritime Transportation of Hazardous Materials

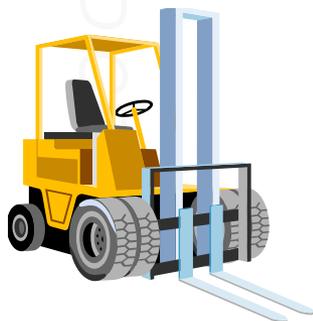
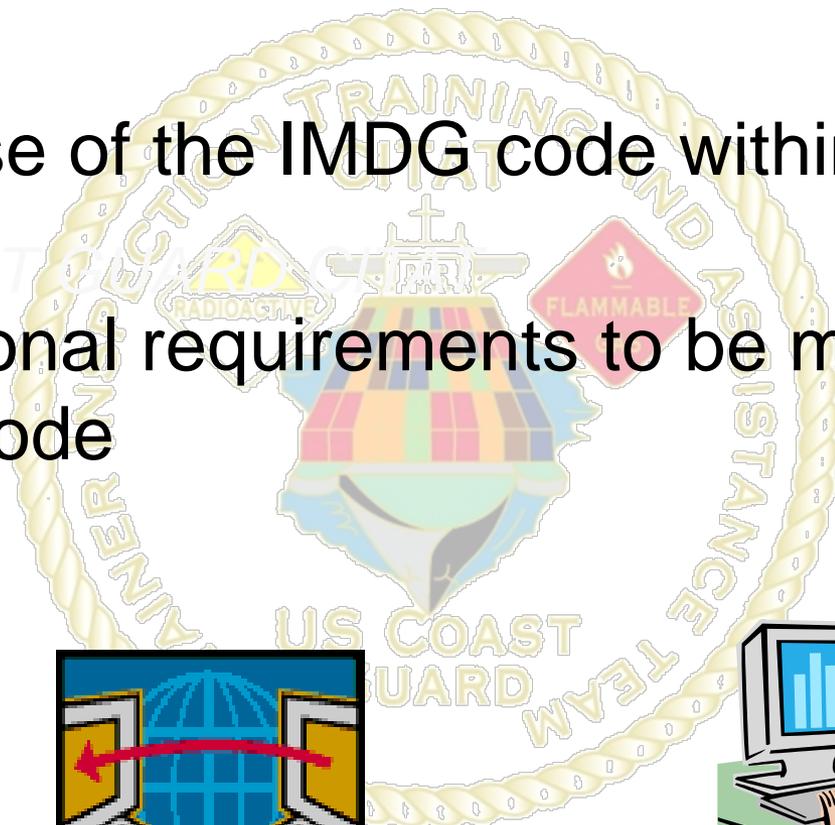




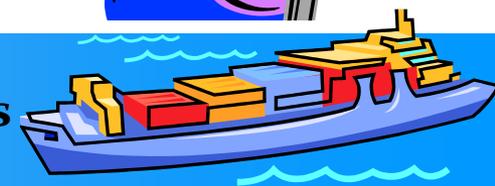
# International Maritime Dangerous Goods Code

## §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



Maritime Transportation of Hazardous Materials





## Basic Requirements

### §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

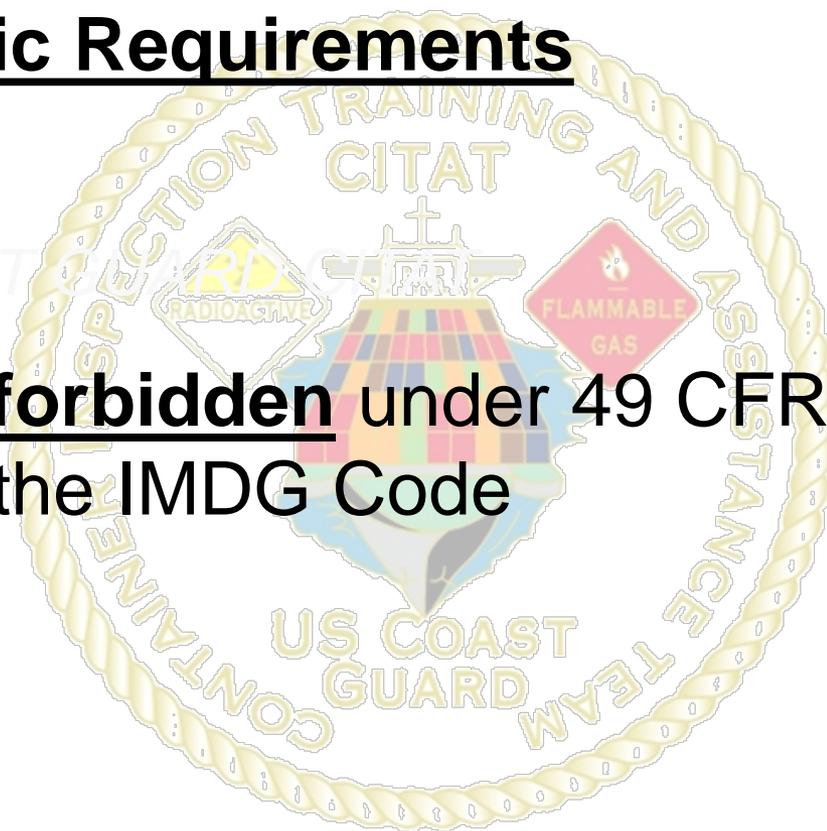




## Basic Requirements

§171.22(e)

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





# International Maritime Dangerous Goods 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.



Maritime Transportation of Hazardous Materials





# International Maritime Dangerous Goods Code

## Basic Requirements

§171.22(g)

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



Maritime Transportation of Hazardous Materials



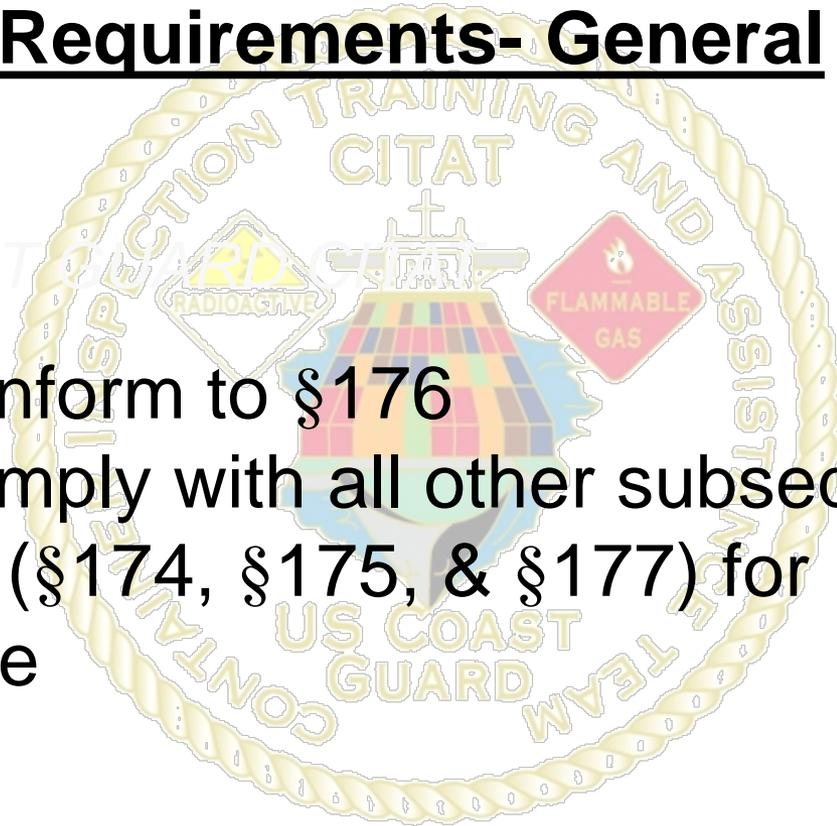


# International Maritime Dangerous Goods Code

## 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



Maritime Transportation of Hazardous Materials





# International Maritime Dangerous Goods Code

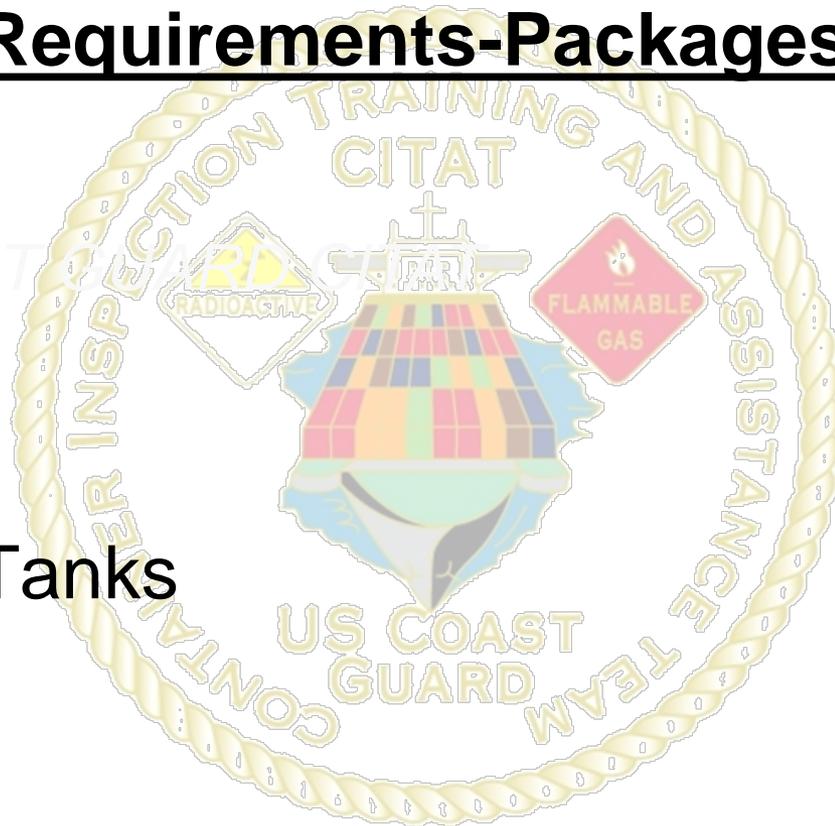
## Additional Requirements-Packages

§171.23(a)

- Cylinders

§171.25(c)

- Bulk packages & Tanks



Maritime Transportation of Hazardous Materials



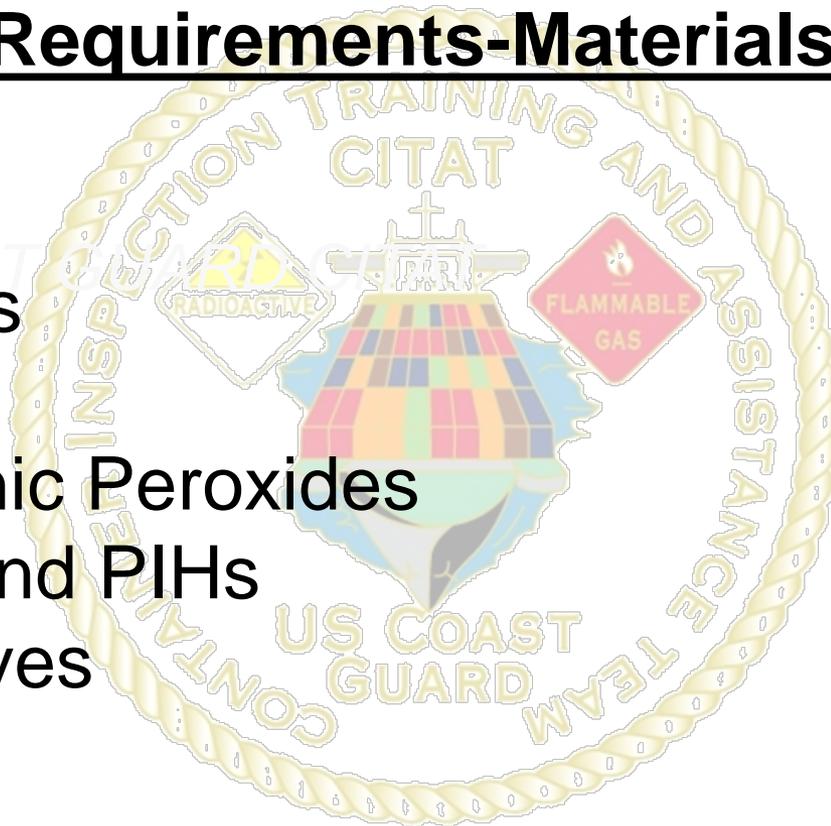


# International Maritime Dangerous Goods Code

## 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



Maritime Transportation of Hazardous Materials



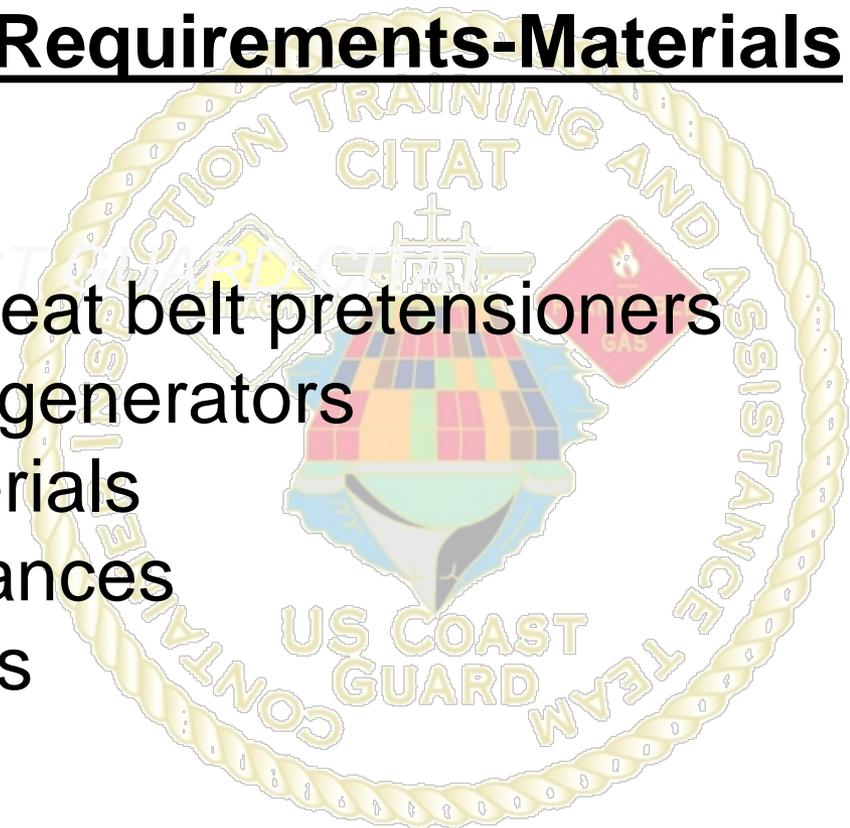


# International Maritime Dangerous Goods Code

## Additional Requirements-Materials

§171.23(b)

- Air bag inflators/ seat belt pretensioners
- Chemical oxygen generators
- Self-reactive materials
- Hazardous Substances
- Hazardous Wastes
- Marine Pollutants



Maritime Transportation of Hazardous Materials



# Carrier's Responsibilities



Homeland  
Security

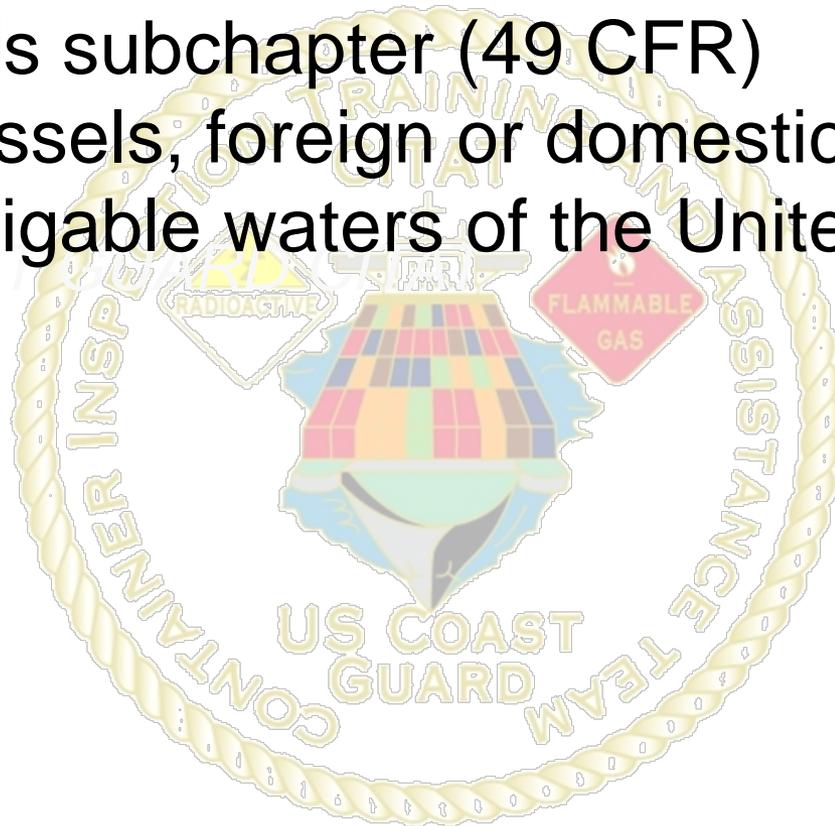
***U.S. COAST GUARD***



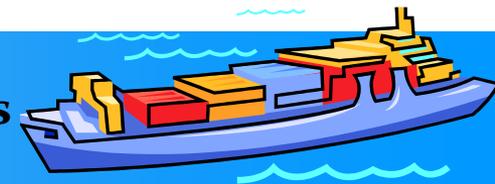


# 49 CFR 176 Applicability

§176.5 states “This subchapter (49 CFR) applies to all vessels, foreign or domestic, when in the navigable waters of the United States.”



Maritime Transportation of Hazardous Materials





# Carrier's Responsibility

## Three Primary Responsibilities

- ✓ Stow
- ✓ Segregate
- ✓ Communicate



Maritime Transportation of Hazardous Materials





# Stowage & Segregation

## §172.101 (HMT) Column 10A

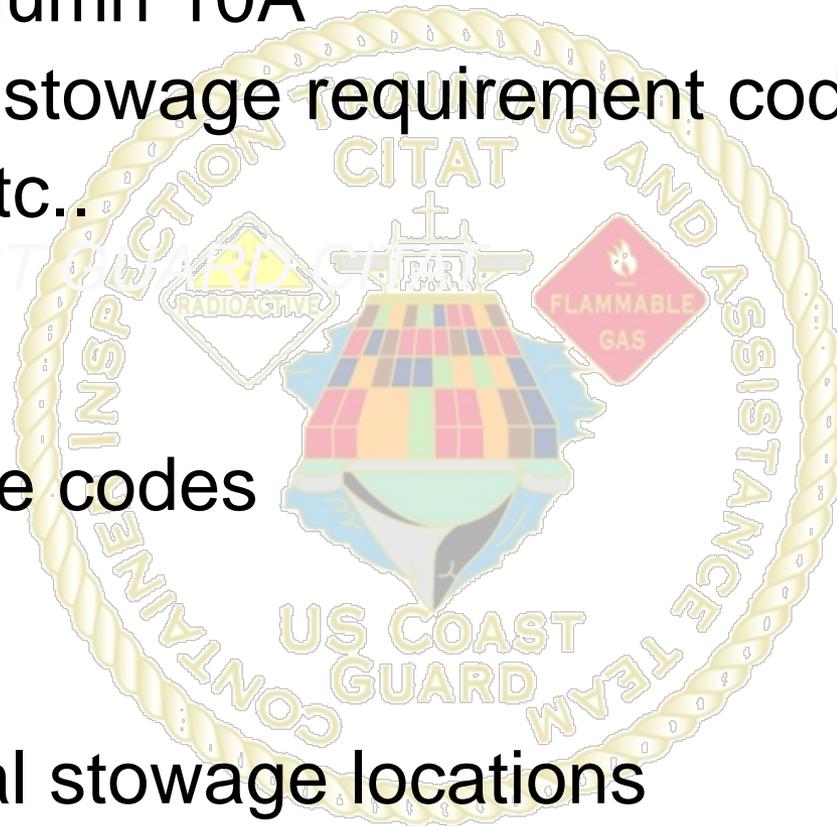
- General vessel stowage requirement codes- A, B, C, 01, 02, etc..

## §172.101 (k)

- Defines stowage codes

## §176.63

- Defines physical stowage locations





# Stowage & Segregation

§ 172.101 HAZARDOUS MATERIALS TABLE

§ 172.101

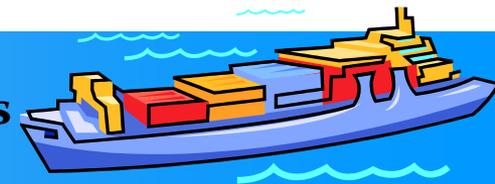
Sym- bols  (1)	Hazardous materials descrip- tions and proper shipping names  (2)	Hazard class or Di- vision  (3)	Identifica- tion Num- bers  (4)	PG  (5)	Label Codes  (6)	Special provi- sions (§ 172.102)  (7)	(8)			(9)		(10)	
							Packaging (§ 173.***)			Quantity limitations (see §§ 173.27 and 175.75)		Vessel stow- age	
							Excep- tions  (8A)	Non- bulk  (8B)	Bulk  (8C)	Passenger aircraft/rail  (9A)	Cargo air- craft only  (9B)	Loca- tion  (10A)	Other  (10B)
A	Accellerene, see p- Nitrosodimethylaniline.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Accumulators, electric, see Bat- teries, wet etc.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Accumulators, pressurized, pneumatic or hydraulic (con- taining non-flamable gas), see Articles pressurized, pneu- matic or hydraulic (containing non-flamable gas).	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Acetal .....	3	UN1088	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	E	.....
	Acetaldehyde .....	3	UN1089	I	3	A3, B16, T11, TP2, TP7	None	201	243	Forbidden	30 L	E	.....
	Acetaldehyde ammonia .....	9	UN1841	III	9	IB8, IP3, IP7, T1, TP33	155	204	240	200 kg	200 kg	A	34
	Acetaldehyde oxime .....	3	UN2332	III	3	B1, IB3, T4, TP1	150	203	242	60 L	220 L	A	.....
	Acetic acid, glacial or Acetic acid solution, with more than 80 percent acid, by mass.	8	UN2789	II	8, 3	A3, A6, A7, A10, B2, IB2, T7, TP2	154	202	243	1 L	30 L	A	.....
	Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass.	8	UN2790	II	8	A3, A6, A7, A10, B2, IB2, T7, TP2	154	202	242	1 L	30 L	A	.....
	Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass.	8	UN2790	III	8	IB3, T4, TP1	154	203	242	5 L	60 L	A	.....
	Acetic anhydride .....	8	UN1715	II	8, 3	A3, A6, A7, A10, B2, IB2, T7, TP2	154	202	243	1 L	30 L	A	40
	Acetone .....	3	UN1090	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	B	.....
	Acetone cyanohydrin, stabilized	6.1	UN1541	I	6.1	2, B9, B14, B32, B76, B77, N34, T20, TP2, TP13, TP38, TP45	None	227	244	Forbidden	Forbidden	D	25, 40, 52, 53
Acetone oils .....	3	UN1091	II	3	IB2, T4, TP1, TP8	150	202	242	5 L	60 L	B	.....	

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49 CFR Ch. I (10-1-08 E



## Maritime Transportation of Hazardous Materials

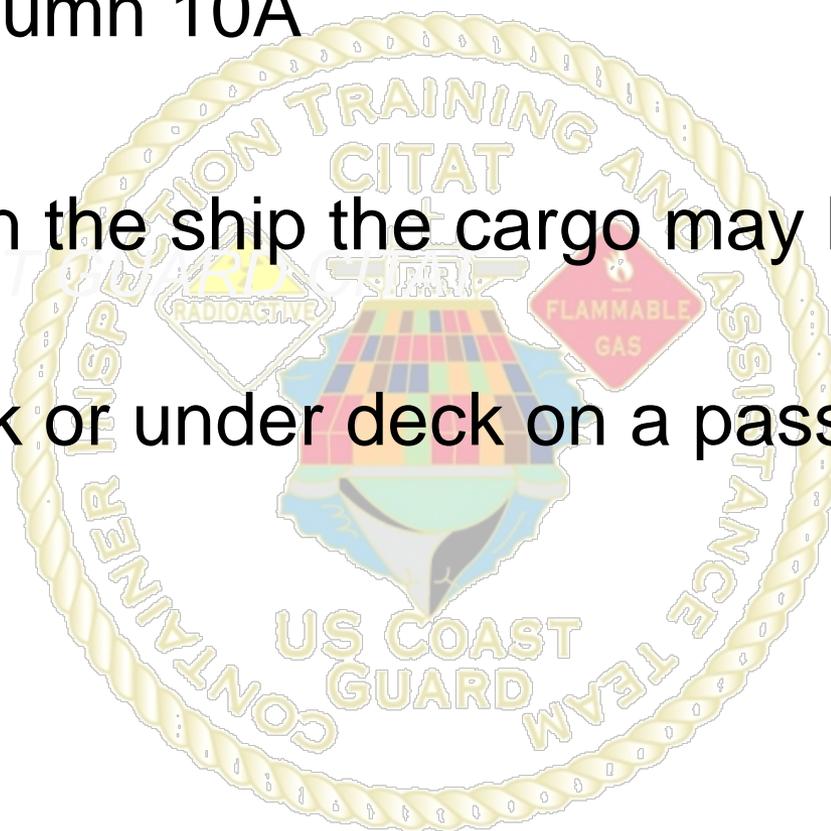




# Stowage & Segregation

## §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!?

US COAST GUARD CITAT



Maritime Transportation of Hazardous Materials

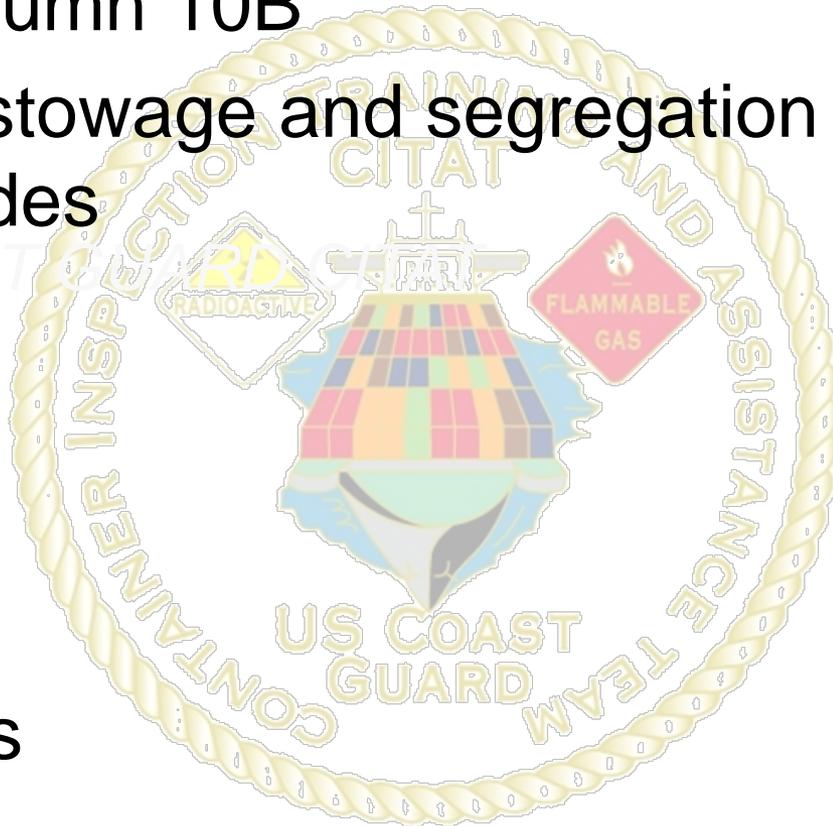




# Stowage & Segregation

## §172.101 (HMT) Column 10B

- Special vessel stowage and segregation requirement codes
- 1 through 141
- 1E through 28E



## §176.84

- Table of provisions



Maritime Transportation of Hazardous Materials







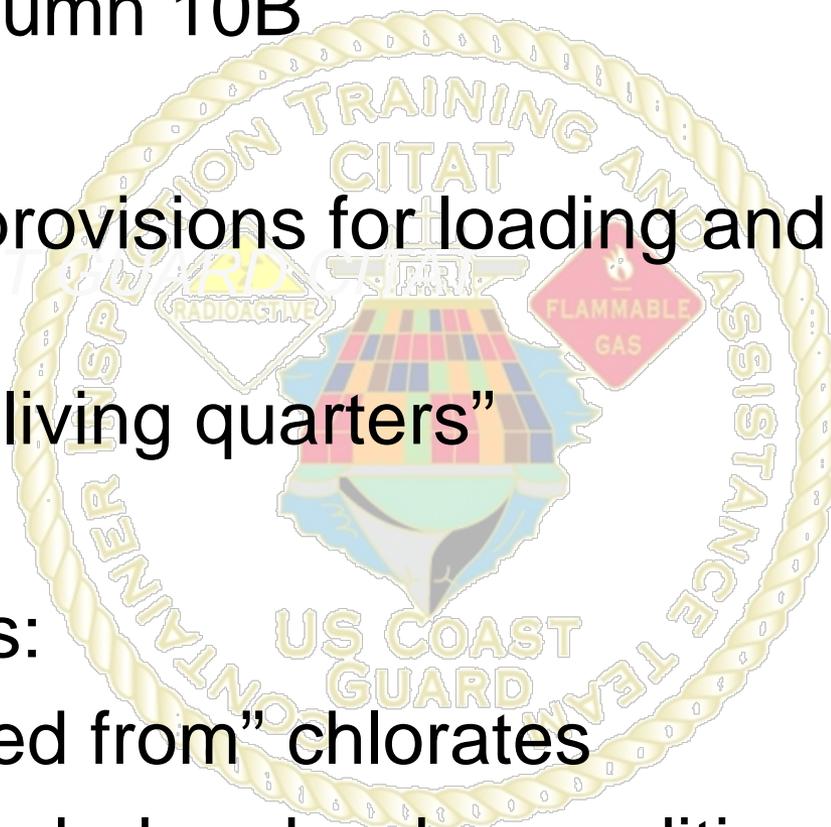
# Stowage & Segregation

## §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



Maritime Transportation of Hazardous Materials





# Communication

§176.24 & 27

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

- Shipping Papers w/ Shippers Declaration
- Container Packing Certificate



Maritime Transportation of Hazardous Materials





# Communication

## §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 MANIFEST

PAGE NO.: 01

(Final Page Or Single Page Submission)

NAME OF SHIP : M/V Pequod CALL SIGN : 1148168 IMO NO. / MD REFERENCE NO. (optional) : \_\_\_\_\_

VOYAGE REFERENCE : 048-09 ESTIMATED DATE OF ARRIVAL : 2009 Jun 16 BERTH : Long Beach, CA, USA Delta-40

CONTAINER NO.	NO. AND KIND OF PACKAGES	PROPER SHIPPING NAME	IMO CLASS (PRIMARY HAZARD)	UN NO.	PACKING GROUP	SUB-SIDIARY RISK(S)	FLASH POINT (IN C.C.) IF 60°C or BELOW	MARINE POLLUTANT	DG NET/GROSS MASS (Kg)	NEQ. (EXPLOSIVES) (Kg)	STOWAGE LOCATION	PORT OF LOADING	PORT OF DISCHARGE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
HDMU2324309	300 1A	BENZALDEHYDE	9	1990	III		64C		81,900		020106	Dubai	L.B.
AZPU3334305	200 4G	Kerosene Solution	3	1223	III		58C		716		210780	PRK	L.B.
AZPU0955876	200 4G	Kerosene Solution	3	1223	III		58C		716		210782	PRK	L.B.
OHSE2030991	2160 4G	ADHESIVES	3	1133	III		(-23C)		10,549		070988	ROK	OAK

To: Director of Marine

### Dangerous Goods Declaration

I CERTIFY THAT THIS DANGEROUS GOODS MANIFEST CONSISTS OF 01 PAGE(S).

### Declaration to be made in respect of cargoes 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 cargoes being brought into Hong Kong as either Import Cargoes or Transit Cargoes

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.)

NAME OF COMPANY: Harper & Brothers Shipping Co.  
FAX NUMBER: \_\_\_\_\_  
TELEPHONE NUMBER: \_\_\_\_\_  
E-MAIL ADDRESS: \_\_\_\_\_

NAME & SIGNATURE OF PERSON: H. Melville  
MAKING THIS DECLARATION (Block Capitals)

TITLE OF DECLARANT: Vessel Agent

DATE: 10 June 2009



# Bays, Rows, Tiers

## Bays

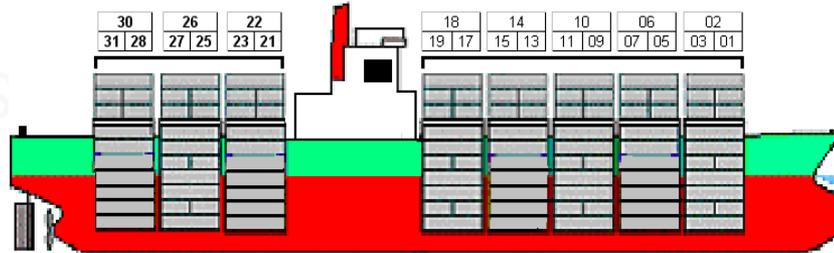
Even numbers are 40' container

02	
03	01

Odd numbers are 20' Container

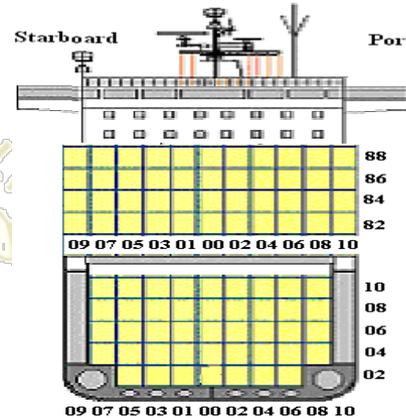
Note that every other even number is omitted (DO NOT count these when doing stowage)

28 24 16 12 08 04



## Rows and Tiers

View from Bow



### 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

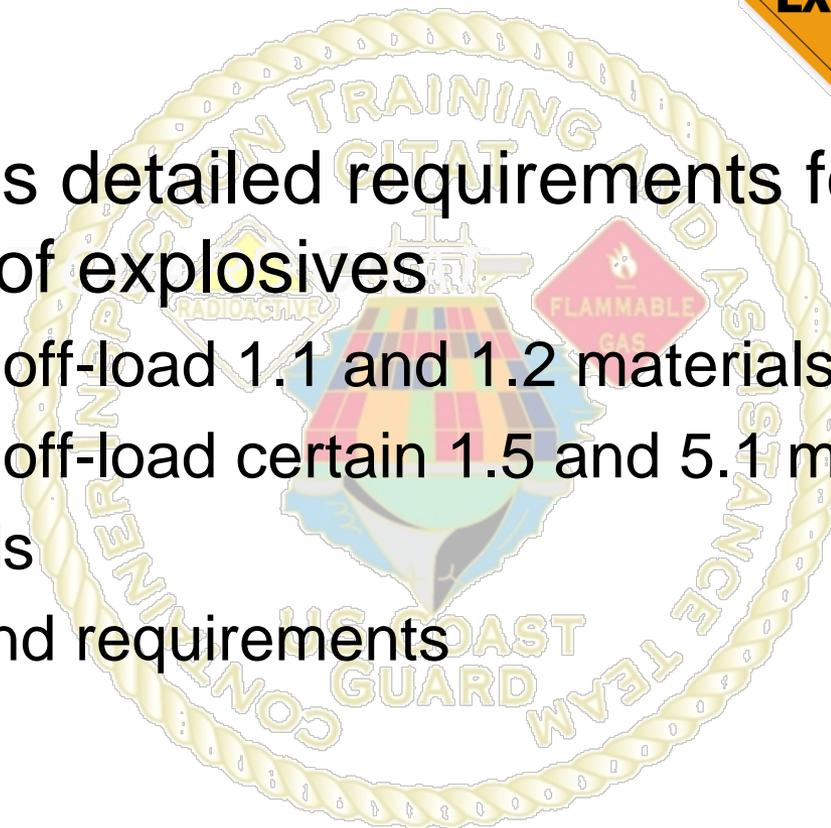




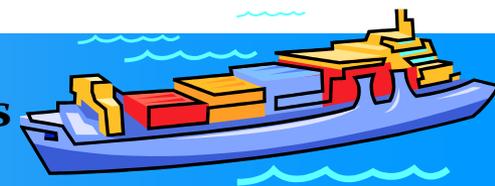
# Detailed Requirements for Class 1 Materials

§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



Maritime Transportation of Hazardous Materials



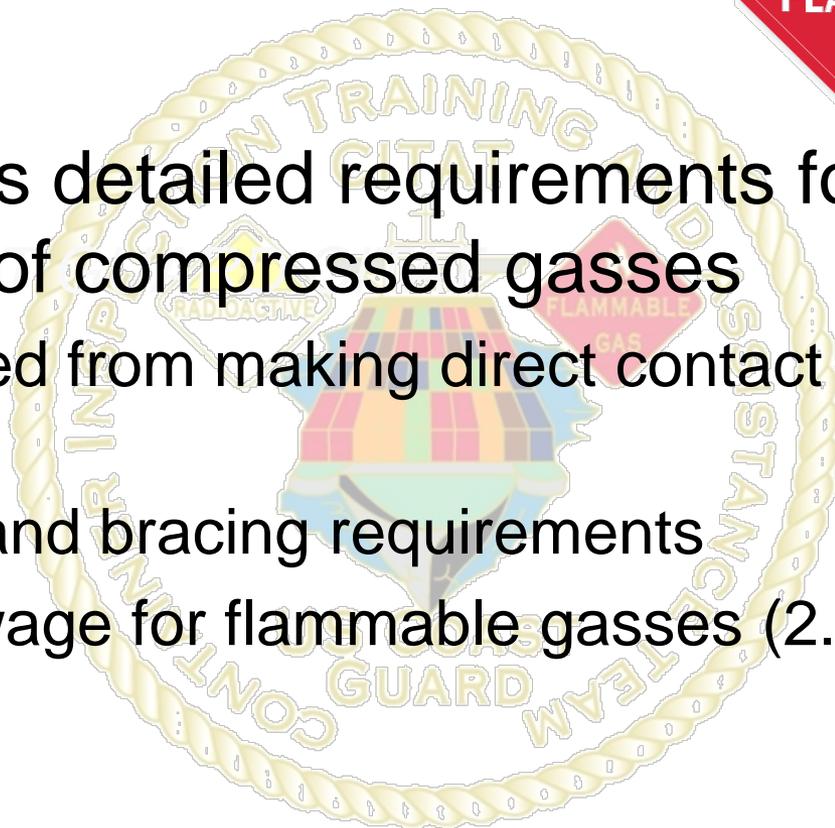


# Detailed Requirements for Class 2 Materials



§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

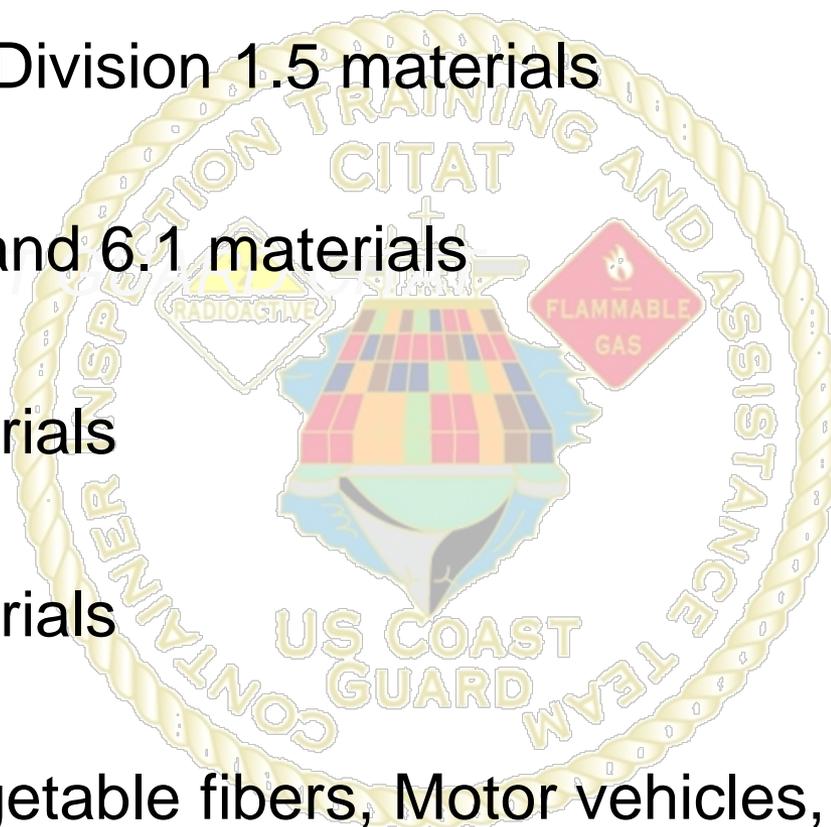
§176.400- Class 4 & 5, Division 1.5 materials

§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



**Maritime Transportation of Hazardous Materials**



# Coast Guard's Responsibilities



Homeland  
Security

***U.S. COAST GUARD***





# USCG's Responsibility

## Primary Responsibilities

- ✓ Protect the maritime community
- ✓ Protect the American public
- ✓ Protect the environment
- ✓ Standardize enforcement
- ✓ Eliminate delays
- ✓ Educate shippers and carriers
- ✓ Ensure cooperation



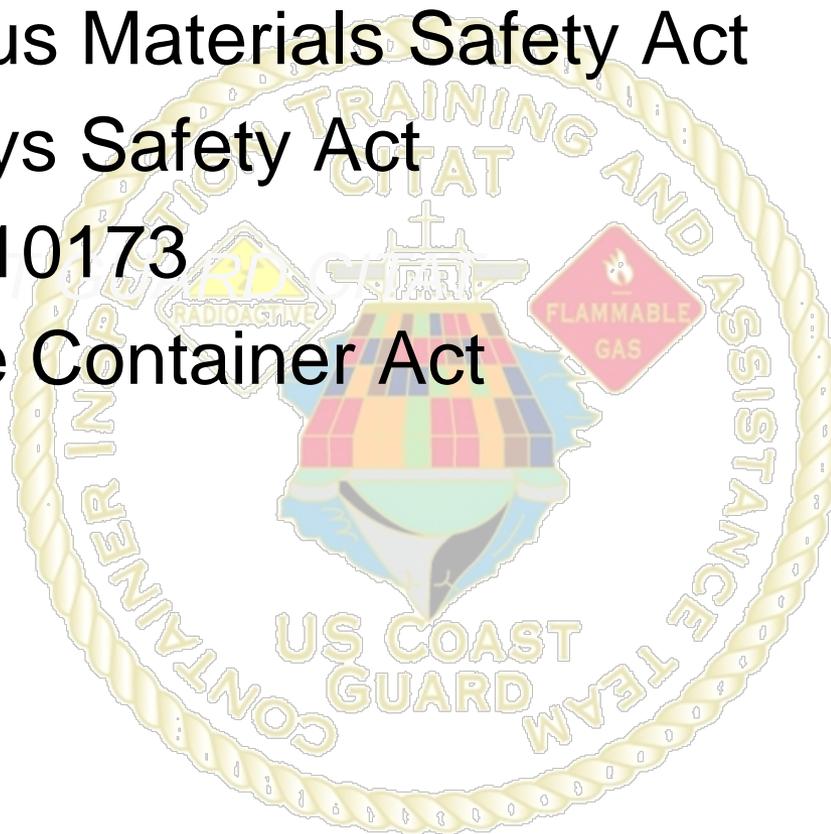
Maritime Transportation of Hazardous Materials





# USCG Enforcement Authority

- Federal Hazardous Materials Safety Act
- Ports & Waterways Safety Act
- Executive Order 10173
- International Safe Container Act



Maritime Transportation of Hazardous Materials



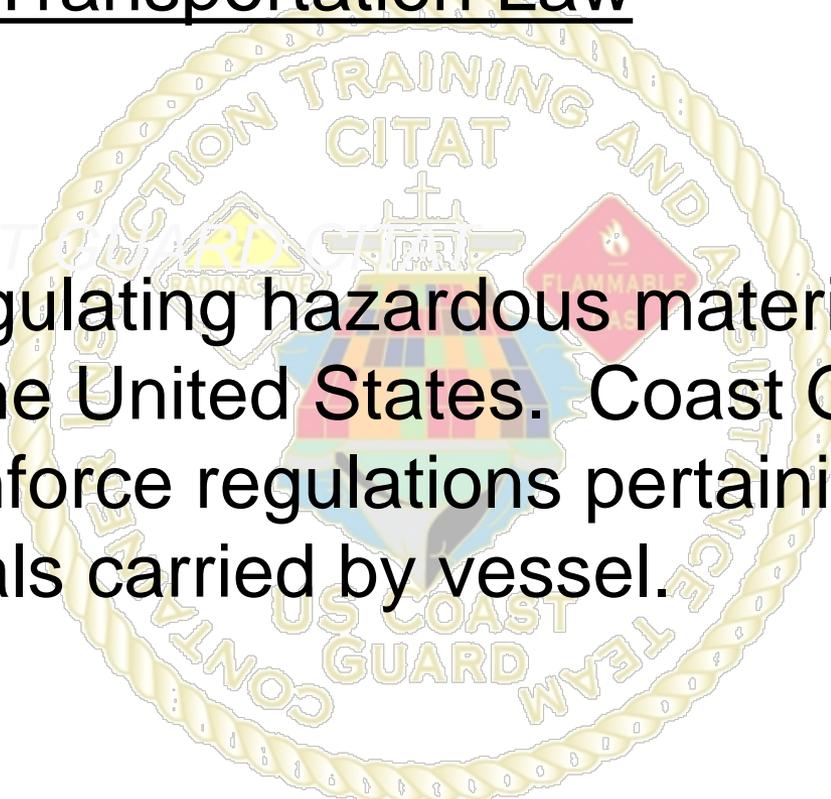


# USCG Enforcement Authority

## 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.



Maritime Transportation of Hazardous Materials





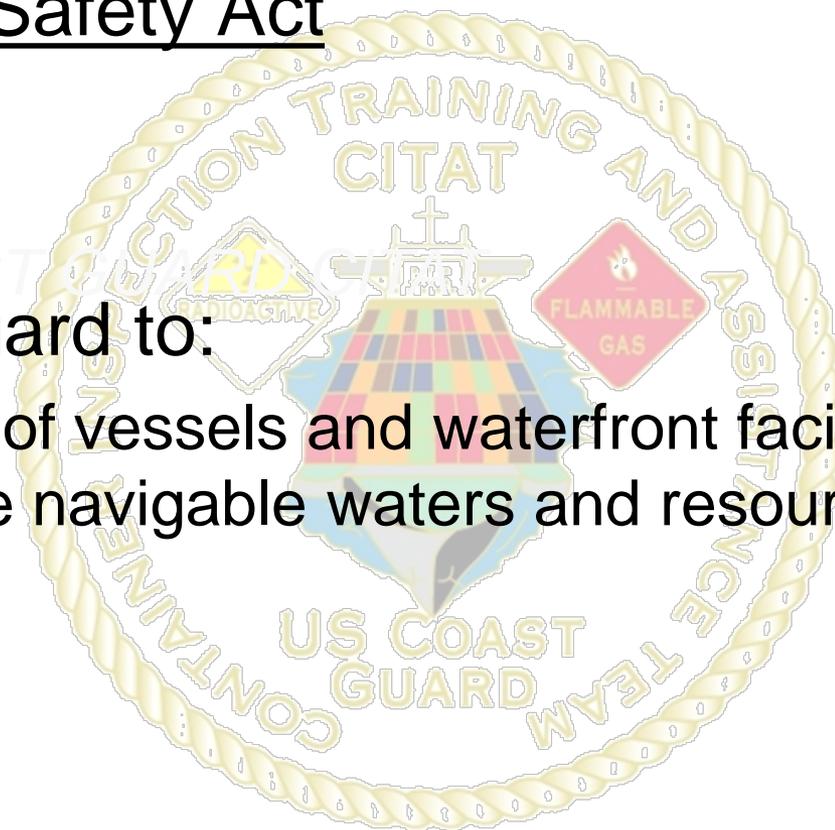
# USCG Enforcement Authority

## Ports & Waterways Safety Act

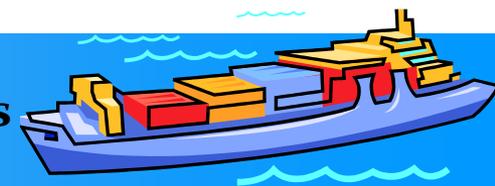
33 CFR 160

Allows the Coast Guard to:

“to insure the safety of vessels and waterfront facilities, and the protection of the navigable waters and resources”



Maritime Transportation of Hazardous Materials

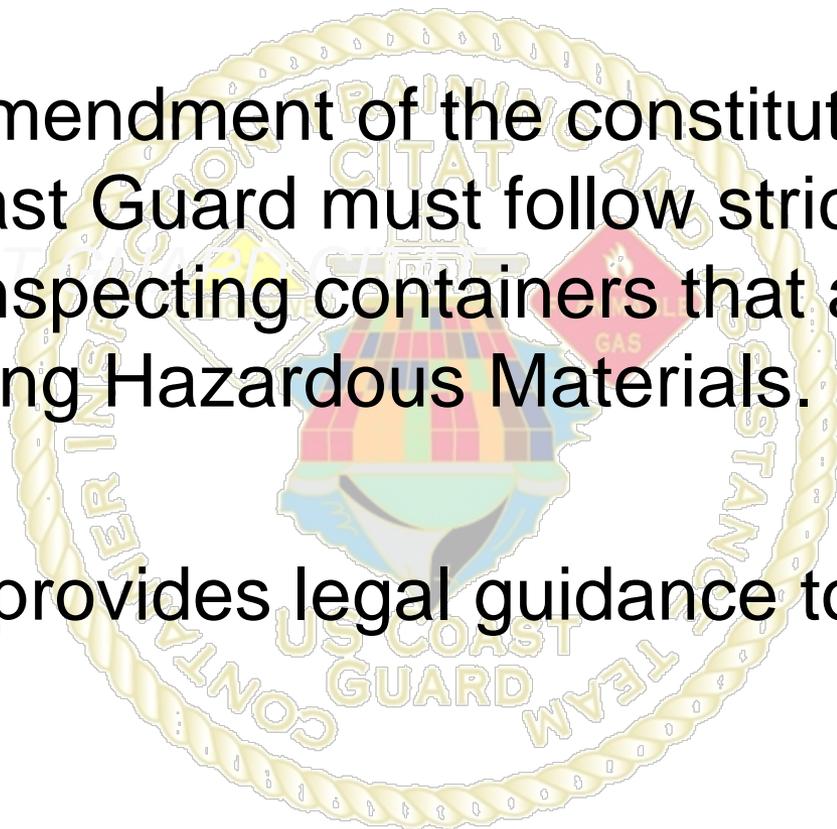




# USCG Enforcement Authority

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



Maritime Transportation of Hazardous Materials





# USCG Enforcement Authority

## International Safe Container Act

49 CFR 450-453

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



Maritime Transportation of Hazardous Materials





# 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](http://www.uscg.mil/hq/citat)



Maritime Transportation of Hazardous Materials





# Questions?

US COAST GUARD CITAT



**Maritime Transportation of Hazardous Materials**

