

JOB AID

HAZMAT Transportation Part 6d:
Carrier Requirements for
Water (IMDG)

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We can take action to protect our waters and marine life when transporting hazardous materials by any type of vessel or ship. The U.S. Department of Transportation (DOT) authorizes shippers and carriers to offer and accept hazardous materials in accordance with the **IMDG (International Maritime Dangerous Goods) Code**, provided they meet the conditions and limitations set forth in Sections 171.12 and 176.11 of the **Hazardous Materials Regulations (HMR)**. Carriers often use the IMDG Code because it provides uniform international regulations for the transport of hazardous materials or dangerous goods by sea.

Responsibilities

Shippers, carriers, masters, agents and charterers of vessels must comply with the HMR governing the transportation of hazardous materials on commercial, domestic and foreign vessels in U.S. waters.

Never accept hazardous materials offered under a false or deceptive name, marking, invoice or other shipping declaration. Know that shipments found in violation during transit may cause the **master of the vessel** to consider it an emergency and act accordingly.

When an incident involving hazardous materials occurs onboard a vessel, it's the master of the vessel's duty to implement safety measures that help protect the vessel, passengers and crew. If in port, don't deliver the material to anyone; the master will contact the nearest Coast Guard Captain of the Port (COTP) and request instructions for disposing of the material.

Shippers:

- Sign the container-packing certificate
- Furnish carriers with **shipping papers** that describe the true nature of the hazardous materials and include a signed container packing certificate
- Package, mark, label and placard HAZMAT shipments as required by Parts 172 and 173 of the HMR

Carriers:

- Inspect HAZMAT shipments and accept only those materials that comply with the HMR
- Confirm that shipping papers and HAZMAT shipments comply with the HMR and are accurate
- Create a dangerous cargo manifest, list or stowage plan
- Remove any debris or hazards before loading and unloading hazardous materials
- Ensure crew members keep shipping papers and the dangerous cargo manifest in a designated holder on/near the bridge

Preparation

Before loading, stowing or unloading hazardous materials, you should:

- Check each hold or compartment; ensure they're free of all debris
- Examine bilges; remove all residue from the previous cargo
- Inspect the weather deck; dispose of any hazardous debris
- Remove loose materials from decks, gangways, hatches and cargo ports

- Stow hatch beams and covers in a location that won't interfere with cargo handling

The master of the vessel or the COTP may assign a responsible person to direct and observe the handling and stowage of hazardous materials onboard a vessel.

Stowing Hazardous Materials

The Hazardous Materials Table (HMT) lists the vessel stowage requirements for hazardous materials in Section 172.101 describing **Column 10A** – where to place them and how to secure them.

Position liquid materials upright, as indicated by the required orientation marking. Secure, brace and/or cushion materials to prevent shifting, crushing or damage.

If the vessel does not contain a smoke/fire detection and extinguishing system:

- Stow materials in a location where you can easily inspect and remove them
- Inspect the materials at least once every 24 hours

Store marine pollutants in accordance with Section 176.70 of the HMR.

Conform to the additional requirements in Part 176 Subpart C when:

- Handling break-bulk hazardous materials
- Accepting and loading transport vehicles, freight containers and portable tanks containing hazardous materials
- Stowing barges that contain hazardous materials onboard barge-carrying vessels
- Using power-operated industrial trucks onboard vessels

Lock or secure the hold, compartment or unit containing explosives to prevent unauthorized access to these materials (segregate according to Table 176.166(b)).

Segregation of Materials

On vessels, you must segregate materials, containers and cargo transport units in accordance with the applicable segregation tables located in Section 176.83 of the vessel carrier requirements. The general segregation table provides direction about where to stow materials:

#	Meaning
1	"Away from" - Stow the materials away from each other in the same compartment or on deck, provided the packages meet a minimum separation distance of 10 feet (3 meters).
2	"Separated from" - Stow the packages in separate compartments or holds under deck, vertically in different holds if the intervening deck is fire and liquid resistant, and on deck with a minimum horizontal distance of 20 feet (6 meters).
3	"Separated by a complete compartment or hold from" - Ensure a complete compartment or hold separates the materials horizontally or vertically under deck. When stowing the packages vertically, make sure one of the intervening decks is fire and water resistant. If neither is, separate the packages horizontally or longitudinally by an intervening complete compartment or hold. You can stow the packages on deck, as well as one on deck and another under deck, provided the separation distance is at least 39 feet (12 meters).

4	"Separated longitudinally by an intervening complete compartment or hold from" - A complete compartment or hold must separate the materials longitudinally or vertically under deck. When one package is on deck and the other is under deck, an intervening complete compartment must separate materials longitudinally, and there must be a vertical distance of at least 79 feet (24 meters) between the two packages.
X	As directed in the Hazardous Materials Table (HMT)
*	In accordance with the Authorized Mixed Stowage for Explosives Table in Section 176.144

When a material bears a **subsidiary hazard** (as indicated in Column 6 of the HMT), check the segregation restriction of this hazard and apply it if it's more restrictive than the segregation requirements of the primary hazard.

Three **additional segregation tables** in Section 176.83 help you determine the segregation restrictions for cargo transport units aboard container ships, trailer ships, train ships and hatchless container ships.

Special requirements may apply when you're transporting hazardous materials aboard **ferry vessels** and **barges**, shown in subparts E and F.

The final subparts of the vessel carrier requirements detail handling and stowing requirements.

- Subpart G – Class 1 materials
- Subpart H – Class 2 materials
- Subpart I – Class 3 materials
- Subpart J – Class 4, Class 5, Division 1.5 materials
- Subpart L – Division 2.3 and Division 6.1 materials
- Subpart M – Radioactive materials
- Subpart N – Class 8 materials
- Subpart O – Cotton and vegetable fibers, motor vehicles

Explosives

The requirements for Class 1 explosives in subpart G are quite extensive.

- In port, signal to others when you're loading, handling and unloading Class 1 explosives by flying a "B" (bravo flag) on the vessel
- If authorized to load and unload explosives at night, operate an all-round fixed red light on the vessel
- Enough crew members must be onboard to maintain watch and to operate the propulsion and firefighting equipment in an emergency
- Take precautions to:
 - Only use electric lights (except arc lights) when artificial lighting is needed during the loading and unloading process
 - De-energize or distance radar and radio equipment away from the explosives
 - Use proper cargo handling procedures and equipment
 - Never load and unload explosives while the vessel is being fueled

Inspections

After properly stowing hazardous materials, you may be responsible for completing an initial inspection of each hold or compartment containing hazardous materials and periodic inspections following periods of heavy weather.

If holds or compartments are **not equipped with smoke or fire detection systems**, inspections must take place at least once every 24 hours to ensure the cargo remains in safe condition and no damage has occurred during transit.

Anytime you complete an inspection, create an **entry** in the vessel's deck logbook.

Emergencies

When an incident involving hazardous materials occurs onboard a vessel, it's the **master's** duty to implement safety measures that help protect the vessel, passengers and crew.

If necessary, the emergency safety measures may include:

- Using unauthorized packaging
- Throwing hazardous materials overboard

Because of these actions, damaged packages cannot be offered to the forwarding carrier. The master must notify the nearest COTP to request instructions for disposing of the packages.

You should never repair a vessel containing explosives or other hazardous materials with any heat-producing tools, such as welding, burning or power-actuated equipment. The exception is when emergency repairs are necessary for the safety of the vessel, or when the COTP has approved the repair work and has been advised of emergency repairs.

Reporting HAZMAT Incidents

Reportable incidents (identified in Section 171.15 of the HMR) include those in which the release of hazardous materials, infectious substances, marine pollutants or radioactive materials cause:

- The general public to be evacuated for an hour or more
- A major transportation artery or facility to be shut down for at least an hour
- One or more people to be injured or killed

If the incident involves infectious substances, notify the National Response Center or the Centers for Disease Control and Prevention within 12 hours from the time of the reportable incident.

As a follow-up, provide the Department of Transportation's Pipeline and Hazardous Materials Safety Administration with a detailed written account of the incident in accordance with Section 171.16 of the HMR.