
Q161 - Deck Safety

1. How should gasoline tanks be filled?

- To the top to expel all vapors from the tanks
- Fill with only sufficient fuel for the planned trip so excess gasoline is not carried
- **Fill to near the top with some space allowed for gasoline expansion**
- To the top so the operator is certain how much fuel he has aboard

Note:
Gasoline tanks should be filled nearly full, leaving space for expansion to prevent spills and vapor hazards. Filling to the top eliminates this space, creating a fire and pollution risk. Carrying only the necessary fuel is unsafe without a reserve, and knowing the exact fuel level does not justify overfilling.

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2. Which is the MOST important consideration for a tank vessel?

- GM
- The longitudinal center of gravity
- The vertical center of gravity
- **The stress on the hull**

Note:
Maintaining hull girder stress within safe limits is the primary concern for tank vessels, as structural failure is catastrophic even with acceptable stability parameters like GM, LCG, and VCG; therefore, stress on the hull is the most important consideration.

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3. How does good housekeeping prevent fires on a vessel?

- Allowing better access in an emergency
- Improving personnel qualifications
- **Eliminating potential fuel sources**
- Eliminating trip hazards

Note:
Good housekeeping prevents fires by eliminating potential fuel sources, directly addressing the 'fuel' component of the fire triangle. Fire prevention focuses on controlling fuel and ignition sources, and good housekeeping practices like cleaning spills and properly storing combustibles reduce the risk of fire ignition or spread. Options related to emergency access, personnel qualifications, and trip hazards address safety and response, not primary fire prevention.

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4. Which of the following conditions represents the appropriate time for setting off distress flares and rockets?

- Immediately upon abandoning the vessel.
- At half-hour intervals.
- At one-hour intervals.
- **Only when there is a chance of them being seen by rescue vessels.**

Note:
Distress flares and rockets should be deployed only when there is a reasonable chance of observation by potential rescuers to conserve limited resources and maximize effectiveness.

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5. A fire in a pile of dunnage would be classified as a _____.

- **class "A"**
- class "B"
- class "C"
- class "D"

Note:
Dunnage, typically wood, is an ordinary combustible material and therefore classified as a Class A fire, which involves wood, paper, textiles, and rubbish.

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6. Fires are grouped into what categories?

- **Class A, B, C, and D**
- Type 1, 2, 3, and 4
- Combustible solids, liquids, and gases
- Flammable solids, liquids, and gases

Note:
Fires are classified by class (A, B, C, D), not by type numbers or fuel state descriptions. Class A fires involve ordinary combustibles, Class B involve flammable liquids, Class C involve energized electrical equipment, and Class D involve combustible metals. The correct answer identifies this standard classification system.

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7. A magnesium fire is classified as class _____.

- Class A
- Class B
- Class C
- **Class D**

Note:
Magnesium fires are classified as Class D because magnesium is a combustible metal. Class D fires specifically involve combustible metals like magnesium, while Class A covers ordinary combustibles, Class B covers flammable liquids and gases, and Class C covers energized electrical equipment.

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8. All of the following are part of the fire triangle EXCEPT _____.

- fuel
- oxygen
- heat
- **electricity**

Note:
Electricity is not a component of the fire triangle, which consists of fuel, heat, and oxygen. Electricity can be a source of heat but is not a fundamental element required for combustion.

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9. A definite advantage in the use of water as a fire extinguishing agent is its ability to _____.

- alternate expansion and contraction as water in liquid state becomes vapor
- absorb smoke and gases as water is converted from liquid to vapor
- **vaporize and rapidly expand as water absorbs heat**
- rapidly contract as water is converted from a liquid to a vapor

Note:
Water extinguishes fires primarily by absorbing heat and rapidly expanding as steam, which cools the burning material and displaces oxygen.

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10. Which is one of the limitations of foam as an extinguishing agent?

- **Foam conducts electricity**
- Foam is heavier than oil and sinks below its surface
- Foam is corrosive to all steel surfaces and is hazardous to firefighters
- Foam cannot be made with salt water

Note:
Foam, often water-based, conducts electricity, making it unsuitable for use on energized electrical equipment and representing a significant limitation.
