

PRACTICE EXAM 11: HAZMAT & TANKER SIMULATION (50 QUESTIONS)

HAZMAT SECTION (Questions 1–30)

1. A driver transporting 1,800 pounds of Class 3 Flammable Liquid in drums receives a call from the dispatcher asking the driver to pick up an additional 500 pounds of Division 6.1 Toxic material (Packing Group II) at a nearby facility. Before accepting, the driver checks the segregation table and confirms the two materials may be loaded together with appropriate separation. After picking up the toxic material, what placards must the vehicle display?

A. Only FLAMMABLE placards, because Class 3 exceeds 1,001 pounds and Division 6.1 at 500 pounds does not reach the threshold

B. Both FLAMMABLE and POISON placards, because the combined total of all hazardous materials exceeds 2,000 pounds

C. DANGEROUS placards, because two different hazard classes are present and the DANGEROUS placard covers all multiclass combinations

D. FLAMMABLE placards for the Class 3 material exceeding 1,001 pounds — the Division 6.1 at 500 pounds does not independently reach the Table 2 threshold, but the total of all Table 2 materials (2,300 lbs) means DANGEROUS placards could also be used as an alternative

2. A driver is conducting a pretrip inspection on a vehicle loaded with placarded hazardous materials. The driver checks the shipping papers and finds they are complete, but notices that the emergency response telephone number has been crossed out and a different number written in by hand. The handwritten number has no identification of whose number it is. Should the driver be concerned?

A. No, because any telephone number written on the shipping papers satisfies the regulatory requirement regardless of identification

B. Yes, the driver should verify with the shipper that the handwritten number is a valid 24hour emergency response number monitored by a knowledgeable person before departing

C. No, because the driver can substitute the shipper's number with CHEMTREC's number at any time without the shipper's authorization

D. Yes, but only if the original crossedout number was a 1800 tollfree number — local numbers may be substituted without verification

3. A driver transporting Division 1.4 Explosives (Table 2) weighing 800 pounds is asked by a shipper at a second stop to add 400 pounds of Class 9 Miscellaneous Hazardous Materials to the load. After adding the Class 9 material, what is the placarding status?

A. Both EXPLOSIVES 1.4 and CLASS 9 placards are required because the vehicle now carries two different hazard classes

B. No placards are required because neither individual class reaches the 1,001 pound threshold independently

C. No change from the prepickup status — however, the combined total of all Table 2 materials is now 1,200 pounds, so DANGEROUS placards may be applied

D. Only CLASS 9 placards are required because Class 9 takes priority over Division 1.4 when both are present below their individual thresholds

4. A driver discovers during loading that a package labeled as Class 8 Corrosive has been placed upside down on the pallet — the orientation arrows on the package are pointing downward instead of upward. The package contains liquid in inner containers. Why is this a problem?

A. The liquid contents are sealed inside the package but the closures were designed to maintain their seal under normal atmospheric pressure on top, not under hydraulic pressure from inverted liquid pushing against them, increasing leak risk

B. The orientation arrows are decorative packaging graphics with no regulatory significance for highway transport loading

C. Upsidedown loading is only a concern for Class 7 Radioactive materials because radiation emissions are directional

D. The inverted position will cause the Class 8 label to face the trailer floor, making it invisible during a roadside inspection

5. Under the Hazardous Materials Regulations, what happens if a driver is involved in a HazMat incident that meets the criteria for immediate NRC notification, but the driver fails to report the incident?

A. Nothing — NRC notification is a voluntary best practice with no penalties for noncompliance

B. The carrier's insurance premium is increased by a fixed percentage, but no other consequences apply

C. The failure is noted in the driver's personnel file but does not result in any regulatory penalties or enforcement action

D. Failure to report is a separate federal violation with its own penalties — including potential fines — on top of any penalties for the underlying incident itself

6. A driver pulls into a rest area with a placarded HazMat vehicle and parks in a standard truck parking space. The driver needs to use the restroom facilities, which are located approximately 120 feet from the parking space. The driver cannot see the vehicle from inside the restroom building. Can the driver leave the vehicle to use the restroom?

A. Yes, if the driver makes the stop as brief as possible — the attendance requirement allows for brief operational necessities, but the driver should minimize time away and return promptly

B. No, because 120 feet exceeds the 100-foot maximum distance and the vehicle would be unattended — the driver must either find closer parking or arrange for another qualified person to watch the vehicle

C. Yes, because restroom breaks are specifically exempted from the vehicle attendance requirements under FMCSA hours-of-service regulations

D. No, but only if the vehicle carries Table 1 materials — Table 2 materials have no attendance restrictions at rest areas

7. A shipping paper entry shows a hazardous material with a subsidiary hazard of "6.1" (Toxic). The primary hazard class is "3" (Flammable Liquid). Column 6 of the Hazardous Materials Table confirms both a Flammable Liquid label and a Toxic label are required. How many different types of placards must appear on each side of the vehicle if the total weight exceeds 1,001 pounds?

A. One type — only the FLAMMABLE placard, because subsidiary hazards are communicated through package labels only

B. Three types — FLAMMABLE, POISON, and DANGEROUS must all appear on each side as a comprehensive hazard display

C. Two types — both FLAMMABLE and POISON placards must appear on each side, because the subsidiary hazard label generates a corresponding subsidiary placard

D. One type — only the POISON placard, because toxic hazards to human life always take precedence over flammability

8. A driver is transporting a shipment of hazardous materials that includes packages with both "CARGO AIRCRAFT ONLY" labels and standard hazard class labels. The shipment is being transported by highway to an air cargo terminal for subsequent air transport. Does the CARGO AIRCRAFT ONLY label affect the driver's highway transport obligations?

A. Yes, packages with CARGO AIRCRAFT ONLY labels must be transported in specially ventilated highway vehicles to simulate aircraft cargo hold conditions

B. The CARGO AIRCRAFT ONLY label is an air transport restriction that does not change the driver's standard highway HazMat transportation obligations — all normal placarding, documentation, and handling rules apply

C. Yes, the driver must follow additional routing restrictions that avoid all airports by at least five miles during highway transport

D. The label means the packages are too dangerous for highway transport and must be transported directly to the airport by a specialized hazmat courier service

9. A driver is approaching a weigh station that is open and operating. The vehicle is placarded and carrying hazardous materials. A sign at the weigh station entrance reads "ALL TRUCKS MUST ENTER." Must the driver enter the weigh station?

A. No, placarded HazMat vehicles are exempt from all weigh station requirements because stopping increases the exposure time of hazardous materials at a fixed location

B. No, but only if the driver has a valid PrePass transponder that displays a green light, which exempts the vehicle from the physical stop

C. Yes, but the driver may refuse to allow the inspector to examine the cargo area because opening the trailer for a nonemergency inspection could expose the inspector to hazardous vapors

D. Yes, the driver must enter the weigh station and comply with all inspection requirements — HazMat vehicles are not exempt from weigh station operations

10. A vehicle is carrying 600 pounds of Division 4.1 Flammable Solid, 500 pounds of Division 5.1 Oxidizer, and 200 pounds of Class 3 Flammable Liquid. All are Table 2 materials. The combined total is 1,300 pounds. No single class reaches 1,001 pounds. However, the driver also has 100 pounds of Division 2.3 Poison Gas (Table 1). What placards must be displayed?

A. POISON GAS placards for the Table 1 material at any quantity, plus DANGEROUS placards may be used for the Table 2 materials whose combined total exceeds 1,001 pounds

B. Only POISON GAS placards, because Table 1 materials automatically override all Table 2 placarding requirements

C. POISON GAS plus individual FLAMMABLE SOLID, OXIDIZER, and FLAMMABLE placards for each Table 2 class

D. DANGEROUS placards only, covering both the Table 1 and all Table 2 materials under a single universal placard

11. A driver is transporting a bulk shipment of Class 3 Flammable Liquid in a cargo tank when a DOT inspector at a roadside inspection discovers that the identification number displayed on the orange panels does not match the identification number on the shipping papers. The orange panels show "UN1203" (gasoline) but the shipping papers show "UN1263" (paint). What is the most likely conclusion and consequence?

A. The inspector will assume the shipping papers are correct and the orange panels are left over from a previous load — a warning will be issued but no violation cited

B. A serious discrepancy exists — either the wrong product was loaded, the wrong ID number was placed on the vehicle, or the shipping papers are incorrect — the vehicle will likely be placed out of service until the discrepancy is resolved

C. The inspector will average the two identification numbers and use the result to determine the correct material classification

D. No violation exists because identification numbers on orange panels are advisory displays with no regulatory enforcement value

12. Under the Hazardous Materials Regulations, which of the following types of hazardous materials shipments requires a Uniform Hazardous Waste Manifest in addition to standard shipping papers?

A. Any shipment of Division 5.1 Oxidizer in quantities exceeding the material's reportable quantity threshold

B. Any shipment of Class 7 Radioactive material that requires YellowIII labels and has a transport index above 10

C. Any shipment of hazardous materials valued at more than \$10,000 for insurance documentation and customs clearance

D. Any shipment of hazardous waste — material being transported for disposal, treatment, or storage under RCRA regulations

13. A driver is at a chemical distribution facility picking up a load. The facility safety officer tells the driver that the facility requires all drivers to wear chemicalresistant gloves and safety glasses while on the facility grounds, even when not handling hazardous materials directly. The driver did not bring this PPE. What should the driver do?

A. The driver should comply with the facility's PPE requirements — many loading facilities have sitespecific safety rules that exceed federal minimums, and drivers must follow them to operate on the premises

B. Refuse to enter the facility because the facility's PPE requirement exceeds federal regulations and is therefore an unenforceable overreach

C. Enter the facility without PPE but sign a liability waiver acknowledging the risk of not wearing the required protective equipment

D. Ask the facility to provide the required PPE at no charge because federal regulations prohibit facilities from imposing costs on visiting drivers

14. A driver is hauling a mixed load of hazardous materials on a flatbed trailer. Some packages are exposed to direct sunlight. One of the materials is a Division 5.2 Organic Peroxide that requires temperature control during transport. The shipping papers show a "control temperature" of 95°F and an "emergency temperature" of 105°F. The ambient temperature is 92°F and the packages are in direct sunlight. What concern should the driver have?

- A. Direct sunlight can heat the packages well above the ambient air temperature, potentially pushing the material above its control temperature and toward the emergency temperature where self-accelerating decomposition could occur
- B. The 3-degree margin between ambient temperature and control temperature is adequate because organic peroxides do not absorb solar radiation
- C. Temperature-controlled organic peroxides are only a concern during winter months when thermal shock from cold temperatures can trigger decomposition
- D. The control temperature applies only to the loading facility's storage conditions and has no relevance during highway transport

15. A driver picks up a load of hazardous materials at a shipper's facility. The shipper has applied placards to three of the four required positions on the vehicle — the front, rear, and driver's side. The passenger side has no placard. The shipper says they ran out of placards and tells the driver to "pick one up at your next stop." Should the driver depart?

- A. This response seems reasonable, but you should recognize that the answer is about what the correct response actually is. The key issue is that three out of four placards is not acceptable. All four placards must be displayed before departure — do not accept the shipment without four complete placards.
- B. Yes, three out of four placards provides adequate warning from most approach angles and is a common temporary accommodation.
- C. No, but the driver should depart and drive directly to the nearest truck supply store to purchase the fourth placard before continuing to the delivery destination
- D. Yes, because the shipper's obligation to provide placards has been substantially fulfilled at 75 percent compliance

16. A driver transporting placarded hazardous materials is involved in a single-vehicle rollover on a rural highway. The driver is injured but conscious and able to exit the cab. No hazardous material appears to be leaking. What should the driver's first actions be?

- A. Attempt to upright the vehicle using the tractor's winch cable before any hazardous material begins leaking
- B. Move away from the overturned vehicle to a safe distance upwind, call 911 to report the accident and the hazardous materials involved, and wait for emergency responders

- C. Return to the cab to retrieve the shipping papers and fire extinguisher before moving away from the vehicle
- D. Begin directing traffic around the overturned vehicle to prevent a secondary collision while waiting for law enforcement

17. What distinguishes a "proper shipping name" from a "trade name" or "common name" for a hazardous material, and why does this distinction matter for shipping papers?

- A. Trade names are used on shipping papers for domestic shipments while proper shipping names are required only for international transport
- B. There is no meaningful distinction — proper shipping names, trade names, and common names are all equally acceptable on shipping papers
- C. Trade names are assigned by manufacturers for marketing while proper shipping names are industry consensus terms without regulatory standing
- D. A proper shipping name is the standardized, legally mandated name from the Hazardous Materials Table — using it ensures universal identification across the entire transportation chain and emergency response system

18. A driver is transporting 1,000 pounds of Class 8 Corrosive and 1,000 pounds of Division 5.1 Oxidizer on the same trailer. Both materials independently reach the 1,001 pound threshold (at exactly 1,000 pounds, neither reaches the threshold since it requires 1,001 pounds or more). What is the correct placarding decision?

- A. Neither class independently reaches 1,001 pounds (the threshold is 1,001, not 1,000), but the combined total of 2,000 pounds exceeds 1,001 — DANGEROUS placards may be used
- B. Both CORROSIVE and OXIDIZER placards are required because each class has exactly 1,000 pounds, which satisfies the 1,001 pound threshold
- C. No placards are required because neither class reaches 1,001 pounds and the DANGEROUS placard requires at least 2,001 combined pounds
- D. CORROSIVE placards only, because Class 8 takes priority over Division 5.1 when both classes carry exactly the same weight

19. A driver's vehicle breaks down on a highway while carrying placarded hazardous materials. A tow truck arrives to take the vehicle to a repair facility. The tow truck driver does not have a HazMat endorsement. Can the tow truck driver tow the placarded vehicle?

A. Yes, because towing a disabled vehicle is classified as an emergency operation exempt from all endorsement requirements

B. No, the tow truck driver must hold a valid CDL with a HazMat endorsement to legally move any vehicle displaying hazardous materials placards

C. Yes, but only if the tow truck driver removes all placards before towing and the distance to the repair facility is less than 25 miles

D. No, but the tow truck driver may push the vehicle from behind using the tow truck's bumper because pushing is not considered "operating" the vehicle

20. A driver transporting a load of Division 2.1 Flammable Gas cylinders notices during a stop that one cylinder has frost forming on its valve stem area despite warm ambient temperatures. What does this frost most likely indicate?

A. The cylinder was stored in a freezer before loading and the frost is residual ice that will melt within the next hour of transport

B. The frost is caused by condensation from the vehicle's air conditioning system dripping onto the cylinder during transport

C. The cylinder is leaking — compressed gas escaping through the valve rapidly expands and cools, causing atmospheric moisture to condense and freeze on the cold metal surface

D. The gas inside the cylinder has undergone a chemical reaction that produces ice crystals as a byproduct, indicating the cylinder's contents have degraded

21. A shipment of hazardous materials is being transported from a manufacturing plant to a warehouse. The shipping papers correctly identify the material as "Sulfuric acid, 8, UN1830, PG II, 3,000 lbs." At the warehouse, the receiving clerk asks the driver to help unload the drums using the warehouse's forklift. The driver is not trained or certified to operate a forklift. Should the driver assist with unloading using the forklift?

A. No, the driver should not operate equipment for which they are not trained and certified — operating a forklift without proper training creates safety risks, especially when handling hazardous materials

B. Yes, because CDL holders are automatically qualified to operate any materialhandling equipment at delivery facilities

C. No, but only because sulfuric acid requires a specialized acidresistant forklift that is different from the standard warehouse model

D. Yes, as long as the receiving clerk supervises the driver's forklift operation and remains within visual contact at all times

22. A driver is reviewing shipping papers and notices that one hazardous material entry lists the packing group as "PG IV." The driver knows that the packing group system uses Roman numerals I, II, and III. What should the driver conclude?

A. PG IV is a valid packing group recently added to the system for extremely lowhazard materials that barely meet classification criteria

B. PG IV indicates the material has been exempted from all packing group requirements and may be shipped in any packaging

C. A packing group of "PG IV" does not exist — the entry contains an error that the shipper must correct before the shipment can be accepted

D. PG IV is used exclusively for Class 9 materials and is a valid designation for miscellaneous hazardous materials only

23. A driver is parked at a truck stop with a placarded vehicle when a severe thunderstorm with lightning begins. The driver is inside the truck stop restaurant, approximately 80 feet from the vehicle, and can see the vehicle through the window. Lightning strikes a tree near the truck stop parking lot. What should the driver consider about the parked HazMat vehicle?

A. The vehicle is safe because commercial trucks are grounded through their tires and lightning will pass harmlessly through the vehicle to the ground

B. The driver should immediately run to the vehicle and move it to a different parking location farther from the trees

C. The vehicle should be checked after the storm for any damage to placards, fittings, or equipment caused by the storm's wind, hail, or lightning

D. The driver should remain at 80 feet (within the 100foot attendance requirement) and monitor the vehicle through the window — after the storm passes, inspect the vehicle before departing

24. A driver transporting Class 3 Flammable Liquid approaches a highway construction zone where the speed limit drops from 65 mph to 45 mph. Traffic is heavy and stopandgo through the zone. What specific HazMat concern does the stopandgo traffic create?

A. The repeated acceleration and deceleration in stopandgo traffic generates excessive exhaust heat that could ignite flammable vapors near the trailer

B. The repeated stopping and starting creates cyclical surge forces that can fatigue the cargo securement devices and cause packages to shift, loosen, or fall within the trailer

C. Stopandgo traffic increases the vehicle's fuel consumption, which may cause the driver to run out of fuel inside the construction zone

D. The construction zone's lower speed limit reduces the effectiveness of the vehicle's air brake system below the minimum threshold for safe HazMat transport

25. A driver is assigned a load of hazardous materials that will travel through three states. Each state has slightly different rules regarding HazMat vehicle routing, permits, and notification requirements. Who is responsible for ensuring the driver has the necessary permits and knows the statespecific requirements for the entire route?

A. The carrier is primarily responsible for providing the driver with routespecific compliance information, permits, and instructions for each state on the planned route

B. The driver must independently research each state's requirements using publicly available DOT websites before departing

C. The shipper is responsible for obtaining all state permits and providing them to the driver along with the shipping papers

D. The FMCSA issues a universal interstate HazMat transport permit that covers all 50 states, eliminating the need for individual state permits

26. A driver transporting hazardous materials on a twolane highway encounters a funeral procession traveling in the opposite direction. Several vehicles in the procession have their headlights on. Must the driver take any special action?

A. No special action is required — a funeral procession in the opposite lane does not affect the HazMat driver's operations other than normal courtesy and safe driving practices

B. Yes, the driver must pull over and stop until the entire funeral procession has passed, because HazMat vehicles must yield to all organized processions

C. Yes, the driver must turn on hazard flashers when passing any organized procession to alert the procession participants to the hazardous materials on board

D. No action is required, but if the procession includes a law enforcement escort, the driver must reduce speed to 25 mph until the escort vehicle has passed

27. A vehicle loaded with hazardous materials is involved in a minor fenderbender in a parking lot. No material is released, no one is injured, and the total property damage is approximately \$2,000. The driver calls the carrier to report the accident. The carrier's dispatcher tells the driver not to bother calling the NRC because "it's just a fenderbender." Is the dispatcher correct?

A. No, all accidents involving placarded vehicles must be reported to the NRC regardless of damage amount or whether material was released

B. Yes, the dispatcher is correct — this incident does not meet any of the mandatory NRC notification triggers and does not require NRC notification

C. No, because any accident in a parking lot involving a HazMat vehicle triggers automatic NRC reporting under the facility incident exception

D. Yes, but the driver should file DOT Form 5800.1 within 24 hours to document the parking lot incident for the carrier's insurance records

28. A driver who holds both a HazMat (H) endorsement and a Tanker (N) endorsement — shown as the "X" endorsement on the CDL — is asked to transport 5,000 gallons of gasoline in a cargo tank. Gasoline is a Class 3 Flammable Liquid. Why does this specific load require the X endorsement rather than either endorsement alone?

A. The X endorsement is required because gasoline is classified as both a flammable liquid and a corrosive, requiring dual endorsement coverage

B. Both endorsements are needed simultaneously — the HazMat (H) because gasoline is a regulated hazardous material requiring placarding, and the Tanker (N) because it is being transported in a tank vehicle meeting the capacity thresholds

C. The X endorsement is required because 5,000 gallons exceeds the volume threshold that triggers the combined endorsement requirement

D. The X endorsement is a special certification that includes additional training beyond the individual H and N endorsements

29. A shipper presents shipping papers for a load of hazardous materials. The papers list the correct proper shipping name, hazard class, identification number, and packing group for each material. However, the total quantity column shows "TBD" (to be determined) for one of the entries because the shipper plans to add more packages after the initial load. Should the driver accept the shipment with this incomplete entry?

A. Yes, because "TBD" is an accepted placeholder that allows the shipper to update the quantity within 24 hours of the shipment departing

B. Yes, as long as the driver writes in the estimated quantity based on a visual count of the packages loaded at the time of departure

C. No, but the driver may depart with the incomplete papers and have the shipper fax the updated quantity to the carrier's office

D. No, every hazardous material entry must include a specific total quantity — "TBD" does not satisfy the regulatory requirement, and the entry must be completed before the driver accepts the shipment

30. A driver transporting hazardous materials sees a sign on a highway overpass reading "LOW CLEARANCE — 12 FT 6 IN." The driver's vehicle height is 13 feet 4 inches. What must the driver do?

A. Proceed slowly under the overpass because the posted clearance includes a 12inch safety margin above the actual structural height

B. Do not proceed — the vehicle exceeds the posted clearance and will strike the overpass, potentially damaging the vehicle, cargo, and structure, and causing a hazardous materials release

C. Deflate the trailer tires to lower the vehicle height by approximately 6 inches, then proceed under the overpass at reduced speed

D. Proceed at normal speed because the posted clearance is calculated for the center of the travel lane where clearance is always greater than at the edges

TANKER SECTION (Questions 31–50)

31. A tank vehicle driver is operating a fully loaded petroleum tanker (DOT 406) on a highway at 55 mph. A car merges onto the highway from an entrance ramp directly in front of the tanker

at a significantly lower speed, approximately 35 mph. The tank vehicle driver must decelerate quickly. What is the primary handling concern during this sudden speed reduction?

- A. The liquid cargo will surge forward powerfully, pushing the vehicle toward the slower car and extending the stopping distance well beyond what the driver expects from brake application alone
- B. The steering system will lock up during rapid deceleration, preventing the driver from making any directional corrections
- C. The tank shell will flex under the surge pressure, potentially cracking weld seams along the longitudinal axis
- D. The fuel inside the tank will begin to vaporize from the friction of sloshing, creating an immediate explosion risk inside the tank

32. A driver operating a multicompartiment tank vehicle has completed deliveries from compartments 1, 2, and 3 (front section). Compartments 4 and 5 (rear section) remain fully loaded. The driver is continuing to the final delivery point 60 miles away. What is the most critical driving adjustment needed for this portion of the trip?

- A. The driver should increase speed to compensate for the lighter front end, which provides less air resistance and allows faster travel
- B. The driver should shift to a higher gear to maintain proper engine RPM with the reduced total vehicle weight
- C. No adjustment is needed because the remaining two compartments are sealed and the liquid cannot shift between compartments
- D. The driver must account for the significant rearward weight shift — reduced traction on the drive axles, lighter steering, increased trailer sway — by reducing speed and increasing following distance

33. A tank vehicle is being loaded with a volatile flammable liquid on a hot summer day. The loading facility operator begins loading at the maximum flow rate immediately. The driver notices excessive splashing and vapor production at the manhole opening. What is the correct action?

- A. Continue loading at maximum rate because faster loading reduces the total time that volatile vapors are being produced

B. Request that the flow rate be reduced until the loading arm outlet is submerged below the liquid surface inside the tank to eliminate splash loading and reduce static generation and vapor production

C. Close the manhole cover partially to contain the vapors while loading continues at the maximum rate

D. Spray water into the manhole opening to cool the incoming liquid and suppress vapor formation during the loading process

34. A cargo tank driver discovers during a pretrip inspection that one of the tank's discharge valve handles has a broken safety retaining pin. The handle moves freely and could potentially open from road vibration during transport. What should the driver do?

A. Drive with extra caution and avoid rough roads that might vibrate the handle open during transport

B. Wire the handle in the closed position with safety wire or a cable tie as a temporary measure, report the broken pin, and have it replaced at the earliest opportunity

C. Remove the valve handle entirely and transport it in the cab, reinstalling it at the delivery site when needed for unloading

D. Ignore the broken pin because discharge valves have internal springs that hold them closed regardless of the handle position

35. A tank vehicle driver is delivering fuel to a gas station with underground storage tanks. Before connecting the delivery hose to the station's fill pipe, the driver should check the fill pipe area for what specific condition?

A. Water, debris, or foreign objects in and around the fill pipe opening that could contaminate the product or obstruct flow during the delivery

B. The serial number on the fill pipe cap to verify it matches the serial number on the delivery ticket for chain of custody purposes

C. The station's current retail fuel prices to confirm they match the carrier's wholesale price schedule before beginning the transfer

D. The color of the fill pipe cap to determine which grade of fuel the underground tank contains, because fill pipes are always color-coded by fuel grade

36. A tank vehicle equipped with a smooth bore tank is carrying a liquid with a very low viscosity (thinner than water). Compared to carrying a highviscosity liquid (thick, like molasses) in the same tank, how does the low viscosity affect surge behavior?

A. Lowviscosity liquids produce less surge because they flow around obstacles more smoothly and create less turbulence inside the tank

B. Lowviscosity liquids surge more aggressively than highviscosity liquids because they flow more freely, build momentum faster, and strike the tank walls with greater speed and force

C. Viscosity has no measurable effect on surge behavior — all liquids produce identical surge forces regardless of how thick or thin they are

D. Lowviscosity liquids eliminate surge entirely because the liquid's thinness allows it to settle instantly after any vehicle speed or direction change

37. A driver operating a loaded tank vehicle approaches a traffic signal that has just turned green. Several vehicles ahead are beginning to accelerate from a stop. The driver begins accelerating to follow traffic. What surge effect should the driver anticipate during this acceleration?

A. The tank's internal pressure will increase during acceleration, potentially triggering the pressure relief valve if the acceleration is too rapid

B. The steering will become lighter during acceleration because the liquid shifts rearward, reducing weight on the front steering axle

C. The vehicle will drift toward the right lane during acceleration because the liquid surge creates a lateral force perpendicular to the direction of travel

D. The liquid will surge backward toward the rear of the tank during acceleration, temporarily shifting weight to the rear axles and reducing steering response

38. A cargo tank's specification plate shows a test pressure of 50 psi and a MAWP of 35 psi. What is the relationship between these two values?

A. The test pressure is the pressure at which the tank was tested during its most recent qualification test — it is always higher than the MAWP to provide a safety margin between the operating limit and the tested structural capability

- B. The MAWP is the pressure at which the tank was manufactured, while the test pressure is the maximum pressure allowed during normal operations
- C. The two values are unrelated — the test pressure measures air tightness while the MAWP measures the tank's resistance to external impact forces
- D. The test pressure is lower than the MAWP because testing uses gentler conditions than actual highway operations

39. A tank vehicle is traveling on a divided highway with a wide, grassy median. A vehicle traveling in the opposite direction loses control, crosses the median, and enters the tank vehicle's lane approximately 500 feet ahead, heading directly toward the tanker. The tank vehicle driver has seconds to react. What factor unique to tank vehicles most limits the driver's evasive options?

- A. Tank vehicles cannot exceed 55 mph on divided highways, limiting the driver's ability to accelerate past the oncoming vehicle
- B. Tank vehicles have a much wider turning radius than standard trucks, preventing the driver from steering into the median to avoid the collision
- C. A hard swerve at highway speed in a loaded tank vehicle carries extreme rollover risk from lateral liquid surge and high center of gravity, making evasive steering extremely dangerous
- D. Tank vehicles have no emergency braking capability at highway speeds because the liquid surge completely overcomes all braking force

40. A driver is performing a pretrip inspection on a cargo tank and checks the tank's manhole covers. All covers are in place, but the driver notices that one cover's hinge is cracked — the cover opens and closes but the hinge could fail during transport, potentially allowing the cover to detach entirely if it were forced open by internal pressure. Should the driver be concerned?

- A. This is a valid concern because the manhole cover must be fully secured and the hinge must be intact to prevent the cover from detaching, especially during a rollover or pressure event
- B. Yes, but only if the tank carries a pressurized product — atmospheric pressure tanks are not affected by hinge condition because the cover sits in place by gravity alone
- C. No, because manhole covers are secured by bolts and clamps that are independent of the hinge — the hinge is a convenience feature for maintenance access only
- D. No, because cracked hinges are a normal wear item that are inspected only during the tank's five-year requalification test

41. A tank vehicle driver arrives at a customer's facility and discovers that the delivery must be made through a hose run of approximately 200 feet from the cargo tank to the customer's receiving tank. The vehicle's standard delivery hose is only 50 feet long. The customer offers to connect three additional 50-foot hose sections together to reach the required distance. What concern should the driver have about this extended hose configuration?

A. The customer's hoses may have different specifications than the vehicle's hose, and adding joints increases the number of potential leak points under pressure

B. Using multiple hose sections is prohibited by regulation — only a single continuous hose may be used for any hazardous materials transfer operation

C. The additional hose length will increase the weight of the product remaining in the hose after delivery, requiring the driver to drain more residual product

D. The extended hose run will double the delivery time, which may cause the driver to exceed hours-of-service limits before completing the delivery

42. A driver operating a loaded tank vehicle at highway speed encounters a sudden, strong crosswind gust while crossing an open bridge. The vehicle sways noticeably to the right. What should the driver do?

A. Grip the steering wheel firmly, resist the urge to overcorrect to the left, make small gradual steering adjustments, and reduce speed — overcorrecting could trigger lateral liquid surge that amplifies the sway

B. Steer hard to the left immediately to counteract the crosswind force before the vehicle is pushed into the right bridge railing

C. Apply the brakes hard to stop the vehicle on the bridge and wait for the crosswind to subside before continuing across

D. Accelerate to cross the bridge as quickly as possible, minimizing exposure to the crosswind over the open water

43. What is the purpose of the "K" marking that may appear on or near a cargo tank's specification plate?

A. The "K" indicates the tank has been certified for transporting potassium-based chemical compounds exclusively

B. The "K" indicates the number of compartments in the tank, with each "K" representing one sealed bulkhead division

C. The "K" marking indicates that the tank has passed its most recent leakage test — verifying that all valves, closures, and fittings seal properly at operating pressure

D. The "K" is the manufacturer's quality grade designation, with "K" representing the highest tier of construction standards

44. A tank vehicle is traveling at 45 mph on a rural highway when the driver spots a deer standing in the travel lane approximately 200 feet ahead. The driver must decide between hard braking and swerving. In a loaded tank vehicle, which response generally presents the lower risk?

A. Hard braking, despite the extended stopping distance from surge — because a hard swerve at 45 mph carries a high probability of rollover from lateral liquid surge and high center of gravity

B. Swerving, because the liquid cargo shifts to the outside of the turn and actually lowers the center of gravity on the inside, stabilizing the vehicle during the evasive maneuver

C. Both options present identical risk levels in a tank vehicle, so the driver should choose whichever feels more instinctive in the moment

D. Neither option is viable — the driver should maintain current speed and direction, relying on the vehicle's size to protect the cab in case of a collision with the deer

45. A driver is preparing to load a DOT 407 stainless steel cargo tank with an industrial chemical. The loading facility operator tells the driver the chemical is "compatible with stainless steel" and hands over the shipping papers. The driver notices the papers list the material as Class 8 Corrosive. Should the driver accept the operator's verbal assurance about compatibility?

A. Yes, because the loading facility operator is always the most knowledgeable person about the products handled at the facility

B. Yes, because DOT 407 tanks are designed to carry any Class 8 material without exception, so compatibility is guaranteed by the tank specification

C. No, the driver should accept only the operator's verbal assurance since written compatibility documentation is not required for highway transport

D. The driver should verify compatibility through the carrier's operational procedures or the tank's specification plate to confirm the tank is authorized for this specific corrosive chemical — verbal assurance alone is insufficient

46. A tank vehicle driver is making a delivery when a significant rainstorm begins. The driver is unloading flammable liquid through a product hose connected from the cargo tank to the customer's receiving tank. Lightning is visible in the distance but the storm appears to be at least 10 miles away. Should the driver continue the delivery?

A. Yes, because 10 miles provides a safe buffer distance from lightning and the delivery can be completed before the storm arrives

B. Yes, because the grounding and bonding cables protect the delivery operation from lightning regardless of storm proximity

C. Stop the delivery when the lightning is within 5 miles — the current 10-mile distance provides adequate safety margin to continue

D. The decision depends on the specific conditions, but as a general principle, lightning visible anywhere in the area during flammable liquid transfer operations warrants stopping the delivery, securing all connections, and waiting for the storm to pass

47. A loaded tank vehicle's air brake system has a low air pressure warning device that activates when air pressure drops below approximately 60 psi. If this warning activates while the driver is operating on a highway, what specific danger does this create for a tank vehicle?

A. The low air pressure will cause the tank's internal emergency shutoff valves to open, releasing product through the discharge piping

B. As air pressure continues to drop, each brake application becomes weaker — in a tank vehicle, weak brakes cannot overcome the forward surge force from the liquid cargo, meaning the vehicle may be unable to stop

C. The low air pressure warning indicates the tank is losing internal pressure, which means the product level is dropping due to a leak

D. Low air pressure only affects the trailer brakes, and the tractor brakes will continue to function normally to compensate

48. A driver is operating a partially loaded (35%) smooth bore tank vehicle through an area with heavy stop-and-go traffic. After approximately 30 minutes of repeated braking and acceleration, the driver notices that the vehicle's handling feels increasingly unstable — the cab seems to rock more with each stop. What is happening?

- A. The liquid surge energy can build cumulatively during repeated stopandgo cycles — each braking event triggers surge that may not fully dampen before the next acceleration and brake cycle, progressively amplifying the rocking motion
- B. The repeated braking has overheated the tires, reducing their diameter and raising the vehicle's center of gravity above its design limit
- C. The liquid is gradually separating into layers of different density due to the repeated agitation, creating an unbalanced load distribution
- D. The vehicle's suspension has absorbed moisture from the road surface spray during the stopandgo traffic, reducing its damping effectiveness

49. A tank vehicle driver is operating on a highway when a tire on the drive axle begins to smoke. The driver can see smoke in the mirrors. The tank is carrying Class 3 Flammable Liquid. What is the most critical concern and the correct response?

- A. The smoking tire is merely releasing dust buildup and will stop smoking once the dust has burned off — the driver should continue monitoring
- B. The smoking tire indicates a minor alignment issue that should be checked at the next scheduled maintenance interval
- C. A tire fire near a tank carrying flammable liquid could ignite vapors or heat the tank, creating a catastrophic fire — the driver must pull over immediately and assess the situation, potentially disconnecting the trailer and calling emergency services
- D. The smoking tire will selfextinguish because the vehicle's forward motion creates airflow that cools the tire and prevents sustained combustion

50. A tank vehicle driver has been making deliveries all day from a fivecompartment petroleum tanker. It is now late afternoon, and only compartment 3 (center) has product remaining — approximately 2,000 gallons. Compartments 1, 2, 4, and 5 are empty. The driver has one more delivery to make, 40 miles away. What handling characteristics should the driver expect for this final segment of the trip?

- A. The vehicle will handle exactly like a fully loaded tanker because the center compartment positions the remaining weight directly over the axle group
- B. The vehicle will handle like an empty truck because only 2,000 gallons (approximately 12,000 pounds of product) remains out of a 45,000pound payload capacity

C. The remaining 2,000 gallons in the center compartment will produce significant surge within that compartment, the empty end compartments contribute no stability, and the overall light weight reduces traction — requiring reduced speed, increased following distance, and extra caution on curves

D. The four empty compartments act as air cushions that absorb all surge energy from the loaded center compartment, making the vehicle easier to drive than when fully loaded

Practice Exam 11: Answer Key and Explanations

1. D — Class 3 Flammable Liquid at 1,800 pounds exceeds the 1,001-pound Table 2 threshold, requiring FLAMMABLE placards. Division 6.1 Toxic at 500 pounds does not independently reach 1,001 pounds. However, the combined total of all Table 2 materials is 2,300 pounds, which means DANGEROUS placards could be used as an alternative to individual class placards for the portion below threshold — but the FLAMMABLE placard is mandatory since Class 3 independently exceeds 1,001 pounds.

2. B — A handwritten, unidentified telephone number replacing the original emergency response number raises serious compliance concerns. The driver should verify with the shipper that the handwritten number connects to a valid 24-hour emergency response service monitored by a person knowledgeable about the material. An unverified number may not function when responders need it most.

3. A — Neither Division 1.4 at 800 pounds nor Class 9 at 400 pounds individually reaches the 1,001-pound Table 2 threshold. However, the combined aggregate of all Table 2 materials is now 1,200 pounds, exceeding 1,001 pounds. DANGEROUS placards may be applied because two or more Table 2 classes are present with a combined total meeting the threshold while no single class reaches it independently.

4. C — Packages with orientation arrows contain liquid in inner containers. The arrows indicate which direction must face up so that liquid settles away from closures, preventing leakage. When inverted, the liquid presses against closures designed to resist gravity from above, not hydraulic pressure from below. This increased pressure on the closures creates a significant leak risk during transport vibration and temperature changes.

5. D — Failure to report a hazardous materials incident that meets NRC notification criteria is a separate federal violation carrying its own penalties, including substantial fines. These penalties apply in addition to any penalties assessed for the underlying incident. The reporting requirement exists to ensure federal agencies can track, respond to, and analyze HazMat incidents for public safety purposes.

6. A — The attendance requirement presents a practical challenge at rest areas. While 120 feet technically exceeds the 100-foot limit and the driver cannot see the vehicle from inside the building, drivers must be able to attend to basic needs. Brief operational stops for restroom use are generally treated as necessary operational activities, but the driver should minimize time away and return promptly to the vehicle.

7. C — When Column 6 of the Hazardous Materials Table specifies both a primary and subsidiary hazard label, the vehicle must display both corresponding placards on each of the four sides. The FLAMMABLE placard communicates the primary Class 3 hazard, and the POISON placard communicates the subsidiary Division 6.1 hazard. Both are required so responders approaching from any direction know the full hazard profile.

8. B — The CARGO AIRCRAFT ONLY label is an air transport restriction indicating the package may not be carried on passenger aircraft. This label has no effect on the driver's highway transportation obligations. All standard HazMat requirements — placarding, shipping papers, endorsement, handling rules — apply normally during the highway segment regardless of any air transport labels on the packages.

9. D — Placarded HazMat vehicles are not exempt from weigh station requirements. The driver must enter the weigh station as directed and comply with all inspection procedures, including document checks, weight verification, and vehicle inspection. Refusing to enter or claiming an exemption would be a violation of the weigh station's lawful authority.

10. A — Division 2.3 Poison Gas is Table 1, requiring POISON GAS placards at any quantity — the 100 pounds triggers this automatically. The three Table 2 materials (600 + 500 + 200 = 1,300 lbs combined) exceed the 1,001 pound aggregate threshold, so DANGEROUS placards may be used for those materials since no single Table 2 class reaches 1,001 independently. Both the Table 1 placard and the Table 2 solution must be displayed.

11. B — A mismatch between the identification number on the vehicle and the identification number on the shipping papers is a serious discrepancy indicating either the wrong product was loaded, the wrong ID number was displayed, or the shipping papers contain an error. This creates a dangerous situation where emergency responders could receive incorrect information. The vehicle will likely be placed out of service until the discrepancy is fully resolved.

12. D — A Uniform Hazardous Waste Manifest is required specifically for hazardous waste shipments — materials being transported for disposal, treatment, or storage under the Resource Conservation and Recovery Act. The manifest creates a chain of custody record from generator through transporter to the designated disposal facility. Standard hazardous materials shipments that are not waste do not require this manifest.

13. C — Many loading facilities have site-specific safety requirements that may exceed federal minimums, including PPE requirements for all personnel on their premises. These facility rules are within the facility's authority to enforce on their property. If the driver cannot comply with the facility's PPE requirements, the driver should obtain the required equipment before entering or arrange for the facility to provide it.

14. A — Direct sunlight can heat package surfaces well above the ambient air temperature — a phenomenon called solar loading. On a 92°F day, package surface temperatures in direct sunlight can easily exceed 120°F or more. For a temperature-controlled organic peroxide with a control temperature of 95°F, solar loading could push the material past its control temperature toward the emergency temperature where dangerous self-accelerating decomposition begins.

15. C — All four placards must be displayed before the vehicle departs — three out of four is not compliant. The driver should not accept the shipment until the fourth placard is obtained and installed. Departing with a missing placard violates the four-placard requirement and will

result in a citation during any roadside inspection, regardless of the shipper's promise to provide it later.

16. B — The driver's first priority after exiting the overturned vehicle is personal safety. Moving away from the vehicle to a safe distance upwind protects against potential exposure to released hazardous materials. Calling 911 immediately ensures emergency responders are dispatched with knowledge of the hazardous materials involved. Returning to the cab or directing traffic exposes the injured driver to additional risks.

17. D — A proper shipping name is the standardized, legally mandated name listed in Column 2 of the Hazardous Materials Table. Unlike trade names or common names assigned by manufacturers for marketing, the proper shipping name is recognized universally by shippers, carriers, drivers, inspectors, and emergency responders. Using the correct proper shipping name ensures unambiguous identification throughout the transportation chain.

18. A — The Table 2 placarding threshold is 1,001 pounds or more — meaning the weight must equal or exceed 1,001 pounds. At exactly 1,000 pounds each, neither class reaches the 1,001-pound threshold. However, the combined total of both Table 2 classes is 2,000 pounds, which exceeds 1,001 pounds. DANGEROUS placards may be used because two classes are present with a combined total meeting the threshold.

19. B — Operating any vehicle displaying hazardous materials placards — whether driving it under its own power or towing it — requires the operator to hold a valid CDL with a HazMat endorsement. The placarded vehicle is transporting hazardous materials regardless of how it is being moved. A tow truck driver without a HazMat endorsement cannot legally tow a placarded vehicle.

20. C — Frost forming on a compressed gas cylinder's valve area in warm ambient temperatures is a strong indicator of a gas leak. When pressurized gas escapes through a small opening, it expands rapidly, and this expansion absorbs heat from the surrounding metal surface. The resulting cold surface causes atmospheric moisture to condense and freeze, creating visible frost — a clear warning sign of an active leak.

21. C — The driver should not operate equipment for which they are not trained and certified. Operating a forklift without proper training creates significant safety risks in any setting, but the risks are amplified when handling hazardous materials such as sulfuric acid, where a forklift accident could puncture drums and cause a corrosive spill. The receiving facility should provide a trained forklift operator.

22. A — The packing group system uses only three designations: Packing Group I (great danger), Packing Group II (medium danger), and Packing Group III (minor danger). "PG IV" does not exist in the regulatory framework. The entry contains an error that the shipper must correct before the shipment can be accepted for transport.

23. D — The driver is within the 100-foot attendance requirement and has the vehicle in clear view through the window. After the storm passes, the driver should inspect the vehicle for any storm damage — including damage to placards from hail or wind, impact damage to fittings from flying debris, and any other visible effects of the severe weather — before departing.

24. B — Repeated stopping and starting in heavy traffic creates cyclical surge forces inside the trailer that act on the cargo with every speed change. Over time, these repeated forces can fatigue cargo securement devices — straps, blocking, and bracing — causing packages to shift, loosen, or fall. This risk is especially significant for hazardous materials, where a fallen package could rupture and cause a release.

25. A — The carrier is primarily responsible for ensuring that drivers have the necessary permits, routing information, and statespecific compliance instructions for every route they travel. The carrier's safety department should provide this information as part of the trip planning process. While the driver must follow these instructions, the carrier bears the primary responsibility for assembling the compliance requirements.

26. D — A funeral procession traveling in the opposite direction on a twolane highway does not require any special action from the HazMat driver beyond normal safe driving practices. The driver should maintain normal speed, stay in the correct lane, and exercise standard courtesy. No regulatory requirement mandates that HazMat vehicles yield to, stop for, or alter their operation for funeral processions.

27. B — The dispatcher is correct in this case. No hazardous material was released, no one was injured, and the \$2,000 property damage is well below the \$50,000 threshold. None of the mandatory NRC notification triggers have been met — no death, no hospitalization, no evacuation, no road closure, and no release. The incident should be reported to the carrier but does not require NRC notification.

28. B — The X endorsement is needed because this load involves both a hazardous material (gasoline, Class 3 Flammable Liquid requiring placarding) and a tank vehicle (a cargo tank meeting the capacity thresholds requiring the Tanker endorsement). Neither endorsement alone covers both requirements — the H covers the hazardous material and the N covers the tank vehicle. Together they form the X endorsement.

29. D — Every hazardous material entry on shipping papers must include a specific total quantity — weight, volume, or package count. "TBD" is not a specific quantity and does not satisfy the regulatory requirement. The driver cannot legally accept a shipment with incomplete shipping papers. The quantity must be determined and recorded before the shipment is offered for transport.

30. B — The vehicle's height of 13 feet 4 inches exceeds the posted clearance of 12 feet 6 inches by 10 inches. Proceeding under the overpass would result in a collision with the structure, potentially damaging the vehicle, cargo containers, and the overpass itself. For a HazMat vehicle, a bridge strike could rupture packaging and cause a hazardous materials release. The driver must find an alternate route.

31. A — When the driver brakes to decelerate from 55 mph to match the merging car's 35 mph, the liquid cargo continues moving forward at its original momentum. This forward surge pushes the vehicle toward the slower car, effectively extending the stopping distance beyond what the brakes alone can achieve. The driver must account for this surge distance when judging the safe following gap.

32. D — With the front three compartments empty and the rear two fully loaded, the vehicle's weight has shifted dramatically rearward. This reduces weight on the drive axles (less traction

for braking and acceleration), makes the steering feel lighter and less responsive, and increases trailer sway during lane changes and curves. The driver must reduce speed and increase following distance for the remaining 60 miles.

33. B — Splash loading generates static electricity and produces excessive flammable vapor, both of which create ignition risks. The driver should request that the flow rate be reduced until the loading arm outlet is submerged below the liquid surface inside the tank. Once submerged, the flow rate can be increased to normal because the liquid enters below the surface without splashing or freefalling through air.

34. B — A discharge valve with a broken retaining pin could vibrate open during highway transport, releasing product onto the roadway. The driver should secure the handle in the closed position using safety wire, a cable tie, or another temporary restraint, then report the broken pin to the carrier for permanent repair. This field fix prevents accidental opening while maintaining the ability to open the valve for delivery.

35. A — Before connecting the delivery hose to a gas station's fill pipe, the driver should inspect the fill pipe area for water, debris, dirt, or foreign objects that could contaminate the fuel product or obstruct flow during the delivery. A clean, clear fill connection ensures product quality and prevents delivery problems such as blocked flow or contaminated fuel entering the underground tank.

36. B — Lowviscosity liquids flow more freely than highviscosity liquids, meaning they accelerate faster inside the tank, travel farther before hitting the tank walls, and arrive at the walls with greater speed and force. This produces more violent surge during braking, acceleration, and turning. Highviscosity liquids like molasses move sluggishly and produce much less aggressive surge than thin liquids like water or gasoline.

37. D — During acceleration, the liquid cargo surges toward the rear of the tank due to inertia — the vehicle moves forward but the liquid resists the change in velocity. This rearward surge temporarily shifts weight off the front steering axle and onto the rear axles. The driver may notice lighter steering and reduced frontaxle responsiveness during hard acceleration, which affects directional control.

38. A — The test pressure (50 psi) is the pressure at which the tank was tested during its most recent qualification test. It is always higher than the MAWP (35 psi) to provide a safety margin between the maximum operating pressure and the verified structural capability. The tank must never be operated above 35 psi (MAWP), but it has been proven to withstand at least 50 psi during testing.

39. C — A hard swerve at highway speed in a loaded tank vehicle carries extreme rollover risk because the lateral liquid surge combined with the high center of gravity can exceed the vehicle's stability threshold almost instantaneously. This severely limits the driver's ability to use evasive steering as a response option. Hard braking, while extending stopping distance due to surge, generally presents a lower probability of catastrophic outcome than a rollover.

40. B — A cracked manhole cover hinge could fail during transport, particularly during a rollover or pressure event, potentially allowing the cover to detach and release the tank's contents. While bolts and clamps provide the primary seal, the hinge maintains the cover's

physical attachment to the tank when the bolts are loosened for loading access. A failed hinge on a pressurized tank is a genuine safety concern requiring repair.

41. A — Using multiple hose sections from different sources introduces several risks. The customer's hoses may have different pressure ratings, material compatibility, or coupling types than the vehicle's hose. Each additional coupling joint is a potential leak point under pressure. The driver should verify that all hose sections are rated for the product and pressure, and that all couplings are compatible and properly secured.

42. B — When a crosswind gust pushes a loaded tank vehicle to one side, the liquid inside shifts in response to the lateral force. Overcorrecting with a hard steering input to the opposite side can trigger a secondary liquid surge that amplifies the sway rather than dampening it. The driver should grip the wheel firmly, make small gradual corrections, and reduce speed to minimize the aerodynamic force acting on the vehicle.

43. C — The "K" marking on or near a cargo tank's specification plate indicates the tank has passed its most recent leakage test. The leakage test verifies that all valves, closures, and fittings maintain a tight seal at operating pressure. The K marking includes the month and year of the test, allowing the driver and inspectors to verify the testing currency.

44. A — Hard braking generally presents a lower risk than a hard swerve in a loaded tank vehicle at 45 mph. While hard braking extends stopping distance due to forward surge, the vehicle remains in its lane and maintains its upright orientation. A hard swerve at 45 mph generates lateral surge and centrifugal force that can exceed the vehicle's stability threshold, leading to a rollover with far more catastrophic consequences.

45. D — Verbal assurance from a loading facility operator is insufficient verification that a specific corrosive chemical is compatible with a specific cargo tank. The driver should verify compatibility through the carrier's operational procedures, the tank's specification plate, or written compatibility documentation. Different corrosive chemicals attack different metals differently, and a DOT 407 stainless steel tank may not be compatible with every Class 8 material.

46. D — Lightning anywhere in the visible area during flammable liquid transfer operations represents a genuine ignition risk. While 10 miles may seem distant, lightning can strike well ahead of a storm's visible edge, and thunderstorms can move rapidly. The prudent approach is to stop the delivery, secure all connections and valves, and wait for the storm to pass before resuming flammable liquid transfer operations.

47. B — As air pressure drops below safe operating levels, each brake application becomes progressively weaker. In a tank vehicle, this is compounded by liquid surge — if the brakes cannot generate sufficient force to overcome the forward surge during braking, the heavy loaded vehicle will continue moving forward despite brake application. The driver must stop immediately while enough air pressure remains for effective braking.

48. A — In stopandgo traffic with a partially loaded smooth bore tank, the liquid surge from each braking event may not fully dampen before the next accelerationdeceleration cycle begins. This can create a cumulative rocking effect where each cycle adds energy to the oscillation. The driver should maintain maximum possible following distance and use the gentlest possible brake applications to minimize the amplitude of each surge cycle.

49. C — A smoking tire near a cargo tank carrying Class 3 Flammable Liquid is an extremely dangerous situation. A tire fire can produce intense heat that could ignite flammable vapors escaping from the tank, heat the tank shell and trigger a pressure relief activation, or in a worst case, weaken the tank and contribute to a catastrophic failure. The driver must pull over immediately and take action to prevent the situation from escalating.

50. C — With only 2,000 gallons remaining in the center compartment and four empty compartments surrounding it, the vehicle handles very differently from a full load. The 2,000 gallons will produce significant surge within the center compartment during every speed and direction change. The empty end compartments provide no stabilizing weight, and the overall light vehicle weight reduces tire traction. The driver must reduce speed, increase following distance, and exercise extra caution on curves.