

PRACTICE EXAM 8: HAZMAT & TANKER SIMULATION (50 QUESTIONS)

HAZMAT SECTION (Questions 1–30)

1. A driver is hauling 2,500 pounds of Class 8 Corrosive liquid in a cargo tank. At a weigh station, an inspector asks the driver to identify the location of the emergency response information for the material being transported. Where should this information be?

- A. Stored in the carrier's main office filing system and available upon request by phone during normal business hours
- B. Posted on the exterior of the cargo tank near the specification plate for easy access by emergency responders
- C. Included with or attached to the shipping papers and immediately accessible in the cab during the entire trip
- D. Saved as a digital file on the driver's personal smartphone and available through a passwordprotected application

2. A shipper presents a driver with shipping papers for a load of Division 4.3 Dangerous When Wet material. The papers list the proper shipping name, hazard class, identification number, packing group, and quantity. The driver notices that the shipper's certification statement is present but unsigned. Should the driver accept the shipment?

- A. No, the shipper's certification must be signed by the shipper or an authorized representative before the shipment can be legally accepted for transport
- B. Yes, because the certification statement itself is sufficient — the signature is a courtesy that adds no legal weight to the document
- C. No, but the driver may sign the certification on behalf of the shipper if the shipper provides verbal authorization by phone

D. Yes, as long as the driver initials the certification and notes "shipper absent at time of pickup" on the shipping papers

3. A driver is transporting a placarded load of hazardous materials through an area experiencing heavy fog. Visibility is reduced to approximately 100 feet. What adjustment should the driver make?

A. Activate the vehicle's fourway hazard flashers and maintain normal highway speed to minimize the duration of travel in fog

B. Reduce speed significantly so the vehicle can stop within the visible distance ahead, increase following distance, and use lowbeam headlights

C. Pull onto the highway shoulder and wait for the fog to clear completely before resuming the trip with the placarded load

D. Turn on highbeam headlights to maximize forward visibility and maintain the posted speed limit throughout the fog bank

4. A vehicle is carrying 400 pounds of Division 2.3 Poison Gas and 400 pounds of Division 4.3 Dangerous When Wet material. Both are Table 1 materials. What is the placarding requirement?

A. DANGEROUS placards only, because the combined total of 800 pounds is below 1,001 and the DANGEROUS placard covers all Table 1 combinations

B. Only POISON GAS placards, because Division 2.3 is the more lethal material and takes priority over Division 4.3 in mixed loads

C. No placards are required because neither material individually exceeds 1,001 pounds of aggregate gross weight on the vehicle

D. Both POISON GAS and DANGEROUS WHEN WET placards on all four sides, because each Table 1 material requires its specific placard at any quantity

5. A driver is at a truck stop with a placarded load when a passerby asks what the red diamondshaped signs with the flame symbol mean. The driver explains that the placards indicate flammable material on board. The passerby then asks whether the vehicle might explode. How should the driver respond professionally?

- A. Tell the passerby that the vehicle could explode at any moment to encourage them to maintain a safe distance
- B. Explain that the placards indicate flammable cargo, that the vehicle is operated under strict safety regulations, and that the passerby should maintain a reasonable distance as a general precaution
- C. Refuse to answer any questions about the cargo because federal regulations prohibit drivers from discussing hazardous materials with civilians
- D. Invite the passerby to look at the shipping papers in the cab so they can read the technical details about the material for themselves

6. Under federal regulations, which of the following correctly describes when a HazMat endorsement must be renewed and what the renewal process involves?

- A. The HazMat endorsement is valid for five years and renewal requires a new TSA background check, a new knowledge test, and payment of applicable fees
- B. The HazMat endorsement is valid for ten years and renewal requires only a written request submitted to the state DMV with no additional testing
- C. The HazMat endorsement never expires and remains valid for the lifetime of the driver's CDL without any renewal or retesting
- D. The HazMat endorsement must be renewed annually through an online recertification quiz administered by the FMCSA website

7. A driver transporting hazardous materials is stopped at a roadside inspection. The inspector finds that the placards on the vehicle are the correct type for the material being carried, but the placards are mounted with the flat side up (square orientation) instead of with one point up (diamond orientation). What will the inspector likely do?

- A. Approve the placards because the correct hazard class is displayed and the orientation is a minor cosmetic detail
- B. Issue a warning but allow the driver to continue because the hazard information is technically visible despite the wrong orientation
- C. Confiscate the incorrectly oriented placards and issue replacements from the inspection station's supply

D. Cite the driver for a placarding violation because placards must be displayed in diamond orientation with one point facing up

8. A driver is transporting hazardous materials and needs to cross a state line. The driver is aware that some states have additional HazMat transportation requirements beyond federal regulations. Where should the driver look for information about statespecific requirements?

A. The Emergency Response Guidebook, which contains a statebystate appendix listing all additional requirements for each jurisdiction

B. The Hazardous Materials Table in 49 CFR §172.101, which includes statespecific footnotes for each listed material

C. The carrier's safety department or dispatch, which should provide routing instructions and statespecific compliance information

D. The driver's personal copy of the CDL manual from the state that issued the driver's license, which covers all 50 states' requirements

9. A vehicle is carrying 800 pounds of Class 3 Flammable Liquid, 500 pounds of Division 5.1 Oxidizer, and 200 pounds of Class 8 Corrosive. All are Table 2 materials. The combined total is 1,500 pounds. No single class reaches 1,001 pounds. What placarding is required?

A. DANGEROUS placards on all four sides, because the combined aggregate of all Table 2 materials exceeds 1,001 pounds

B. FLAMMABLE placards only, because Class 3 has the highest individual weight and takes priority in mixed Table 2 loads

C. All three classspecific placards must be displayed because any vehicle carrying three or more hazard classes requires individual placards

D. No placards are required because the DANGEROUS placard may only be used when exactly two Table 2 classes are present

10. A driver picks up a load of hazardous materials. The shipper tells the driver that the emergency response telephone number on the shipping papers is the number for CHEMTREC (18004249300). Is this an acceptable emergency response number?

A. No, because CHEMTREC is a private organization and the regulations require a government agency telephone number

B. Yes, CHEMTREC is one of the most widely used emergency response information services and provides 24hour coverage with personnel knowledgeable about hazardous materials

C. No, because the emergency response number must be the shipper's own direct phone line, not a contracted thirdparty service

D. Yes, but only for Class 3 Flammable Liquids — CHEMTREC does not provide coverage for other hazard classes

11. A driver is transporting a bulk shipment of a hazardous material in a cargo tank. The identification number for the material is UN1830. This number must be displayed on the vehicle. In how many locations must the identification number appear on a cargo tank?

A. Two locations — on the front and rear placards only, because side identification is not required for cargo tanks

B. One location — on the rear of the vehicle only, where approaching emergency responders are most likely to see it

C. Three locations — on the rear and on both sides, but not on the front because the tractor obscures the front of the tank

D. Four locations — on each side and each end of the cargo tank, either on the placards themselves or on adjacent orange panels

12. A driver transporting hazardous materials encounters a bridge with a posted weight limit that is below the gross weight of the loaded vehicle. The bridge is on the driver's planned route. What should the driver do?

A. Cross the bridge at reduced speed because weight limit signs are advisory only for commercial vehicles with valid operating authority

B. Do not cross the bridge — find an alternate route that can accommodate the vehicle's gross weight while maintaining compliance with all HazMat routing rules

C. Cross the bridge if the posted limit is within 10 percent of the vehicle's gross weight, as a standard engineering safety margin

D. Park the vehicle before the bridge, walk across to inspect the bridge structure, and then drive across if it appears to be in good condition

13. A shipper offers a driver a shipment described as "consumer commodities" with the ORMD marking on the packages. The shipper states that no placards are needed. What should the driver understand about ORMD shipments?

A. ORMD is a designation for materials so dangerous that they require double placarding and a military escort

B. ORMD shipments require the HazMat endorsement regardless of quantity because they are still classified as hazardous materials

C. ORMD (Other Regulated Materials, Domestic) is a designation for consumer commodities in limited quantities that may be exempt from placarding and the HazMat endorsement requirement

D. ORMD materials are prohibited from highway transport and may only be shipped by parcel carriers such as UPS or FedEx

14. A driver is transporting a load of Class 3 Flammable Liquid in a dry van trailer. During a stop, the driver opens the trailer doors to check the cargo and immediately smells a strong chemical solvent odor. No visible leaks are apparent. What is the driver's safest course of action?

A. Close the doors, do not reenter the trailer, ventilate the space by opening the doors from a safe position, and investigate the source of the odor before proceeding

B. Enter the trailer to visually inspect each package for leaks, walking carefully between the rows of packages

C. Continue with the trip because solvent odors are common with Class 3 materials and do not indicate a leak unless liquid is visible

D. Spray the interior of the trailer with water from a nearby hose to suppress any flammable vapors before entering to inspect

15. A driver is hauling Division 1.3 Explosives (Table 1) and needs to stop for the night. Which of the following overnight parking options is acceptable?

A. A welllit public rest area on a major interstate highway where the driver can sleep in the cab with the doors locked

- B. A shopping center parking lot during overnight hours when the lot is empty and provides ample space for the vehicle
- C. A highway shoulder with reflective triangles placed at the required distances and the vehicle's hazard flashers activated
- D. A safe haven — a fenced, secured facility specifically approved for parking unattended vehicles loaded with hazardous materials

16. Under the Hazardous Materials Regulations, what is the maximum allowable distance between the vehicle and the nearest rail at a railroad grade crossing when a placarded vehicle makes its mandatory stop?

- A. The vehicle must stop within 100 feet of the nearest rail to ensure the driver can see approaching trains clearly
- B. The vehicle must stop within 25 feet of the nearest rail, but not closer than 10 feet to maintain a safety buffer
- C. The vehicle must stop within 50 feet of the nearest rail, but not closer than 15 feet to allow clearance for the crossing gates
- D. The vehicle must stop within 200 feet of the nearest rail to provide adequate distance for acceleration after the stop

17. A driver discovers during a pretrip inspection that two of the four placards on the vehicle are for FLAMMABLE (Class 3) and two are for OXIDIZER (Division 5.1). The shipping papers show the vehicle is carrying only Class 3 Flammable Liquid. What must the driver do?

- A. Contact the previous driver of the vehicle to determine which placards are correct for the current load configuration
- B. Remove the two OXIDIZER placards and replace them with FLAMMABLE placards so all four match the Class 3 material on the shipping papers
- C. Leave all four placards in place because displaying extra placards provides additional safety information to emergency responders
- D. Remove all four placards and drive to the carrier's terminal without placards to have the safety department resolve the discrepancy

18. A hazardous material has a flash point of 60°F and a boiling point of 170°F. Based on these physical properties, what hazard class and packing group would this material most likely be assigned?

A. Class 3 Flammable Liquid, Packing Group II — because the flash point is below 73°F and the boiling point is above 95°F

B. Class 4, Division 4.2 Spontaneously Combustible — because the flash point indicates the material ignites spontaneously at 60°F

C. Class 8 Corrosive — because the flash point and boiling point combination indicates a strong acid with volatile fume production

D. Class 9 Miscellaneous — because the boiling point exceeds 140°F, placing the material outside the flammable liquid classification

19. A driver is delivering hazardous materials to a customer and discovers that the address on the shipping papers does not match the address on the building at the delivery location. The customer representative says the address was recently changed and the shipping papers have not been updated. What should the driver do?

A. Deliver the material because address changes are administrative matters that do not affect the safety of the hazardous materials

B. Deliver the material but write the correct address on the shipping papers and initial the change

C. Ask the customer representative to provide a business card with the new address as proof before accepting the delivery

D. Contact the carrier for verification before releasing the shipment, because the discrepancy could indicate the cargo is being delivered to the wrong location

20. Which of the following describes a legitimate use of the Emergency Response Guidebook by a HazMat driver at the scene of an incident involving their own vehicle?

A. Using the ERG to reclassify the hazardous material into a lower hazard class so that the incident does not trigger NRC reporting

B. Providing the ERG to a bystander and asking them to read the response procedures aloud while the driver performs containment actions

- C. Looking up the material's identification number to find the recommended initial isolation distances so the driver knows how far to evacuate from the vehicle
- D. Using the ERG to override the shipping papers when the driver believes the shipper has incorrectly classified the hazardous material

21. A driver has been transporting a placarded load for six hours. During a stop, the driver realizes that the shipping papers have been on the passenger seat for the entire trip rather than within the driver's immediate reach or in the driver's door pouch. Has the driver been in violation during the trip?

- A. No, because the passenger seat is still inside the cab and the papers are accessible with a brief reach across the seat
- B. Yes, when the driver is at the controls, the shipping papers must be within the driver's immediate reach — typically in the door pouch or on the seat beside the driver within arm's reach
- C. No, because the accessibility rule applies only when the driver is away from the vehicle, not while actively driving
- D. Yes, but only if the vehicle was stopped at any point during the six hours — the rule does not apply while the vehicle is in motion

22. A driver transporting Class 3 Flammable Liquid approaches a toll bridge. A sign at the bridge entrance reads "HAZMAT VEHICLES — RIGHT LANE ONLY." The driver is currently in the left lane. What should the driver do?

- A. Continue in the left lane because the sign is advisory only and toll bridge lane assignments for HazMat are not legally enforceable
- B. Stop the vehicle in the left lane, activate hazard flashers, and wait for a bridge authority escort to guide the vehicle to the right lane
- C. Move to the center lane as a compromise between the posted instruction and the driver's current lane position
- D. Safely merge into the right lane before reaching the bridge entrance and comply with the posted HazMat lane restriction

23. Which of the following scenarios describes a situation where a driver should contact the National Response Center (18004248802) rather than CHEMTREC (18004249300)?

- A. When a reportable quantity of hazardous material has been released during transport and mandatory federal incident notification is required
- B. When the driver needs technical guidance on the specific chemical properties and first aid measures for a material involved in a spill
- C. When the driver needs to identify the proper shipping name of an unfamiliar material found on the shipping papers
- D. When the driver wants to verify that the emergency response telephone number provided by the shipper connects to a valid service

24. A driver observes that several packages of hazardous material loaded on the trailer have orientation arrows (upwardpointing arrows) on their sides. Some of these packages have been loaded on their sides with the arrows pointing horizontally instead of upward. Is this a loading concern?

- A. No, because orientation arrows are decorative packaging graphics with no regulatory significance for cargo loading
- B. No, because orientation arrows apply only during air transport and are not relevant to highway transportation
- C. Yes, packages with orientation arrows must be loaded upright with the arrows pointing up to prevent liquid in inner containers from leaking through closures
- D. Yes, but only if the packages contain Class 7 Radioactive materials — orientation arrows on other hazard classes are nonbinding

25. A driver transporting placarded hazardous materials is driving through a residential neighborhood to reach a delivery location. There is no alternate route. What general rule applies to HazMat vehicle routing through populated areas?

- A. HazMat vehicles are prohibited from entering any residential area regardless of whether an alternate route exists
- B. Drivers should operate over routes that avoid heavily populated areas, places where crowds gather, tunnels, and narrow streets unless there is no practicable alternative

C. Drivers may use any route through residential areas as long as they maintain a speed at least 10 mph below the posted limit

D. HazMat vehicles are only restricted from school zones during school hours — all other residential areas are unrestricted

26. A driver is transporting Division 6.1 Toxic material (Packing Group I, Inhalation Hazard Zone A) in bulk. This is a Table 1 material. What specific placard must be displayed?

A. POISON placards on all four sides, which is the standard placard for all Division 6.1 materials regardless of packing group

B. TOXIC placards with the additional word "INHALATION" printed below the placard on a separate sign at each position

C. DANGEROUS placards, because Inhalation Hazard materials are classified separately from the standard Division 6.1 placarding system

D. POISON INHALATION HAZARD placards on all four sides, because PG I Inhalation Hazard Zone A materials require this specific placard at any quantity

27. A driver arrives at a shipper's facility to pick up a HazMat load. The shipper states that the load is ready and hands the driver the shipping papers. The driver begins loading the truck but does not review the shipping papers until after the trailer is fully loaded and sealed. What error has the driver made?

A. The driver should have reviewed the shipping papers before loading to verify that the material description matches the cargo and that all required entries are complete

B. The driver made no error because shipping papers are required to be reviewed only at the final delivery destination

C. The driver should have asked the shipper to read the shipping papers aloud during loading so both parties could confirm accuracy simultaneously

D. The driver made no error because the shipping papers are the shipper's document and the driver's review is optional

28. A driver is transporting a load of Class 9 Miscellaneous Hazardous Materials (lithium batteries) weighing 3,000 pounds. The vehicle displays CLASS 9 placards. A fellow driver at a truck stop asks whether Class 9 materials are really dangerous. What is the accurate answer?

- A. Class 9 materials pose no real hazard and are classified as hazardous only for administrative paperwork purposes
- B. Class 9 materials are the most dangerous of all nine classes and require the highest level of driver caution and training
- C. Lithium batteries in Class 9 can overheat, catch fire, and produce toxic fumes under certain conditions, making them genuinely hazardous despite their low-risk classification
- D. Class 9 materials are dangerous only when mixed with Class 3 Flammable Liquids — otherwise they are completely inert

29. A driver transporting Division 2.1 Flammable Gas discovers during an enroute stop that one of the compressed gas cylinders has fallen over inside the trailer. The cylinder's protective valve cap is still in place and there are no signs of leaking. What should the driver do?

- A. Upright the cylinder, verify the valve cap is secure, resecure the cylinder in its proper position, and check all other cylinders for shifting before continuing
- B. Leave the cylinder on its side and continue to the destination because the valve cap prevents any gas release regardless of cylinder orientation
- C. Evacuate the area immediately and call 911 because any fallen compressed gas cylinder is considered an imminent explosion hazard
- D. Remove the fallen cylinder from the trailer and leave it at the truck stop for the shipper to recover, then continue with the remaining cylinders

30. A driver picks up a load of hazardous materials. The shipping papers include entries for three different materials. The first two entries show a hazard class of "3" (Flammable Liquid). The third entry shows a hazard class of "8" (Corrosive). Column 6 of the Hazardous Materials Table indicates the third material requires both a CORROSIVE label and a subsidiary POISON (6.1) label. What total number of different placards must be displayed on each of the four sides of the vehicle, assuming both Class 3 materials together exceed 1,001 pounds and the Class 8 material exceeds 1,001 pounds?

- A. One — only the FLAMMABLE placard because Class 3 has the highest total weight and takes priority over all other classes
- B. Two — FLAMMABLE and CORROSIVE only, because subsidiary hazards do not generate additional placarding requirements

C. Two — FLAMMABLE and CORROSIVE, with no POISON placard because the subsidiary hazard is included within the CORROSIVE placard

D. Three — FLAMMABLE, CORROSIVE, and POISON, because the subsidiary hazard label for the Class 8 material generates a separate subsidiary placard requirement

TANKER SECTION (Questions 31–50)

31. A tank vehicle driver is hauling a full load of ethanol in a DOT 406 cargo tank. The driver approaches a highway exit ramp with an advisory speed of 30 mph. The ramp curves sharply to the right. What speed should the driver target for entering the ramp?

A. Exactly 30 mph, because the advisory speed is calculated to be safe for all vehicles including loaded commercial tankers

B. 35 mph, because a fully loaded tank has a lower center of gravity than a partially loaded tank, allowing slightly higher cornering speeds

C. Well below 30 mph — at least 510 mph slower — because advisory speeds are set for passenger cars, not loaded tank vehicles with high centers of gravity and liquid surge

D. Whatever speed feels comfortable to the driver based on their personal experience with the vehicle and the specific exit ramp geometry

32. A tank vehicle driver checks the cargo tank during a pretrip inspection and notices that one of the discharge valve handles has been secured with a cotter pin to prevent accidental opening during transit. Is this a proper practice?

A. Yes, securing discharge valve handles against accidental movement during transit is a proper safety practice that prevents unintended product release from road vibration or impact

B. No, cotter pins restrict the driver's ability to open valves quickly during an emergency and must never be used on any valve handle

C. Yes, but only on the rearmost discharge valve — front and side discharge valves must remain free to open without removing any securing device

D. No, because cotter pins can corrode and fuse to the valve handle, permanently preventing the valve from being opened at the delivery site

33. A loaded tank vehicle makes a sudden lane change to avoid debris on the highway. Immediately after the lane change, the driver feels the vehicle begin rocking side to side with increasing intensity. What is happening, and what should the driver do?

A. The vehicle's shock absorbers have failed, and the driver should stop immediately in the current lane to prevent further damage

B. The tires on one side have lost traction due to the lane change, and the driver should accelerate to regain grip and stabilize the vehicle

C. A tire has blown out during the lane change, and the driver should apply maximum brakes to stop before the tire rim damages the road surface

D. The liquid cargo is oscillating laterally (sloshing resonance), and the driver should avoid braking or further steering inputs, instead gradually reducing speed to allow the oscillations to dampen naturally

34. A driver operating a smooth bore tank vehicle at highway speed feels the brakes becoming spongy and less responsive during a routine brake application on a flat, straight road. The vehicle has been traveling for several hours with no prior brake issues. What is the most likely explanation?

A. The liquid cargo has shifted permanently to the rear of the tank, reducing weight on the front braking axles

B. The brake system may have developed a slow air leak, reducing air pressure in the brake chambers and decreasing braking force — the driver should check the air pressure gauge and stop to investigate

C. The smooth bore tank's unrestricted surge is pushing the vehicle forward faster than the brakes can compensate, creating the illusion of reduced braking response

D. The brake drums have cooled below their optimal operating temperature after several hours of highway driving, reducing friction coefficient

35. A cargo tank has a total capacity of 10,000 gallons. The tank is loaded with 9,800 gallons of product on a cool morning when the temperature is 50°F. The truck will travel through a region where afternoon temperatures reach 100°F. What is the primary concern with this loading level?

- A. The 200gallon outage is adequate for any temperature swing because product expansion is negligible over a 50degree temperature range
- B. The truck will exceed the gross vehicle weight limit because the product will absorb moisture from the humid air, increasing its total weight
- C. The 200gallon outage (2% of capacity) may be insufficient for a 50°F temperature swing, risking overpressure as the product expands with only minimal outage space available
- D. The concern is that the product will evaporate and the liquid level will drop, leaving too much outage and increasing surge risk

36. A driver operating a tank vehicle in a mountainous region encounters a sign reading "RUNAWAY TRUCK RAMP — 1 MILE." The driver's brakes are currently functioning normally. Should the driver note the location of this ramp?

- A. Yes, the driver should mentally note the ramp location as a potential escape route in case brakes fail during the descent ahead — knowing where safety ramps are located is critical preparation
- B. No, runaway truck ramps are designed only for dry van and flatbed trailers — tank vehicles are too heavy for the ramp's gravel to stop
- C. Yes, but only to avoid the ramp, because using a runaway ramp with a loaded tank would cause the tank to rupture on impact with the gravel
- D. No, professional drivers with properly maintained vehicles should never need to use a runaway truck ramp under any circumstances

37. A driver arrives at a customer site to deliver 3,000 gallons of diesel fuel. The customer's receiving tank dipstick shows 7,500 gallons in a 10,000gallon tank. What should the driver verify before beginning the delivery?

- A. That the customer's fuel quality testing equipment is calibrated and ready to sample the incoming diesel before it enters the tank
- B. That the receiving tank has 2,500 gallons of available capacity, which is less than the 3,000 gallons on the truck — the driver cannot deliver the full load without risking an overfill
- C. That the receiving tank's vent pipe is large enough to handle the displaced air volume during a 3,000gallon delivery
- D. That the customer has a valid fuel purchase agreement on file with the carrier before any product is transferred

38. A tank vehicle equipped with an MC 338 cryogenic tank is transporting liquid nitrogen. The driver notices that the tank's pressure gauge shows a gradual, steady increase in pressure over the course of the trip. Is this normal?

A. No, any pressure increase in a cryogenic tank indicates a catastrophic insulation failure that requires immediate evacuation and emergency response

B. No, MC 338 tanks are designed to maintain constant pressure throughout the trip, and any variation indicates a valve malfunction

C. Yes, but only if the pressure increase remains within the tank's MAWP range — the increase is completely unrelated to the cryogenic product

D. Yes, this is expected behavior — heat leaking through the insulation gradually warms the liquid nitrogen, causing it to vaporize and increase pressure inside the tank

39. A driver is unloading a cargo tank using the vehicle's PTO-driven pump. The pump is operating normally when the driver notices a small puddle of hydraulic fluid forming beneath the PTO unit. What should the driver do?

A. Continue unloading because a small hydraulic leak does not affect the pump's ability to transfer product safely

B. Increase the pump speed to finish the delivery faster before the hydraulic leak causes the pump to lose pressure

C. Stop the pump, close all discharge valves, and have the hydraulic leak assessed and repaired before resuming operations — hydraulic fluid can be a fire hazard and the leak may worsen

D. Switch from pump discharge to gravity discharge to bypass the PTO and hydraulic system for the remainder of the delivery

40. A driver discovers during a pretrip inspection that the cargo tank's specification plate shows the tank specification as "DOT 406" but one of the QT markings references a test performed under "MC 306" standards. Does this indicate a problem?

A. Yes, the conflicting specification numbers indicate the tank may have been illegally modified or the specification plate may have been falsified

B. No, MC 306 is the predecessor specification to DOT 406 — many tanks originally built to MC 306 standards remain in service and may show both designations in their testing history

C. Yes, the tank must be immediately removed from service because MC 306 tanks were recalled and may no longer legally operate on public highways

D. No, because MC 306 and DOT 406 are completely different tank types used for different products, and the tank may be dualrated

41. A driver is operating a loaded tank vehicle on a two-lane highway behind a slow-moving farm tractor. The driver considers passing the tractor on a section with a broken center line (passing zone). What factor unique to tank vehicles should influence the passing decision?

A. Passing requires acceleration and a lane change followed by a return lane change — all of which generate surge forces and rollover risk that the driver must consider before committing to the maneuver

B. Tank vehicles are prohibited from passing any vehicle on a two-lane highway regardless of lane markings or passing zone designations

C. The slow farm tractor provides a natural speed buffer that reduces the tank vehicle's surge risk, so the driver should remain behind it

D. Tank vehicles can pass more safely than dry vans because the liquid cargo lowers the center of gravity and stabilizes the vehicle during lane changes

42. A tank vehicle is carrying a high-density chemical liquid (specific gravity 1.8, meaning it is 1.8 times heavier than water). The tank has a capacity of 5,000 gallons. If water weighs approximately 8.34 lbs/gal, approximately how much would 5,000 gallons of this chemical weigh?

A. Approximately 41,700 pounds (the same as water, because specific gravity has no effect on transportation weight)

B. Approximately 8,340 pounds (one-tenth the weight of water due to the inverse relationship between specific gravity and weight)

C. Approximately 23,000 pounds (calculated by multiplying the gallonage by the specific gravity number directly)

D. Approximately 75,060 pounds (calculated as 5,000 gallons \times 8.34 lbs/gal \times 1.8 specific gravity) — which likely exceeds the vehicle's weight limits at full capacity

43. A tank vehicle driver is making a delivery at a location where the customer's fill pipe is located at a significantly higher elevation than the cargo tank's discharge point — approximately 8 feet higher. Can gravity discharge be used for this delivery?

A. Yes, because gravity acts equally on all liquids regardless of the elevation difference between the source and the destination

B. No, gravity discharge requires the cargo tank to be positioned higher than the receiving container — if the fill pipe is above the discharge point, a pump must be used to move the product uphill

C. Yes, if the driver increases the tank's internal pressure by closing all vents and allowing vapor to build up, forcing the liquid upward

D. No, but the driver can tilt the cargo tank by partially deflating the front suspension to create a gravity advantage toward the rear discharge

44. During a tank vehicle pretrip inspection, the driver checks the condition of all external piping runs on the underside of the tank. Why is the underside piping particularly vulnerable compared to piping on the top or sides of the tank?

A. Underside piping is exposed to higher temperatures from engine exhaust, causing the pipe metal to weaken and become brittle

B. Underside piping carries product under higher pressure than top piping because of the additional hydrostatic head from the liquid above

C. Underside piping is exposed to road debris impact, water spray, corrosive road chemicals, and is more difficult to visually inspect — making it susceptible to undetected damage

D. Underside piping is constructed from thinner gauge material than top piping to reduce the vehicle's overall weight and improve fuel economy

45. A driver operating a loaded tank vehicle at 55 mph on a straight highway applies the brakes gradually to slow for a construction zone ahead. As the vehicle decelerates, the driver feels the vehicle being pushed forward by the liquid surge. The driver maintains steady brake pressure. After the vehicle comes to a complete stop, what additional surgerelated phenomenon should the driver expect?

A. The liquid will rebound off the front head and surge backward, then forward again, causing the stopped vehicle to rock back and forth several times before the oscillations dampen

B. The liquid will immediately settle once the vehicle stops because the braking force eliminates all liquid momentum instantaneously

C. The liquid will press permanently against the front head and remain there until the driver accelerates, creating a sustained forward push

D. The liquid will begin rotating inside the tank in a circular pattern caused by the vehicle's deceleration, creating a sustained spinning force

46. A cargo tank is equipped with a pressurevacuum vent on the manhole cover. During loading, the driver observes that the vent is releasing a steady stream of vapor. Is this normal?

A. No, any vapor release during loading indicates a malfunction in the vent's vacuum seal that requires immediate maintenance

B. No, the vent should only activate during unloading when liquid is being removed and air needs to enter the tank

C. Yes, but only if the vapor is white — colored vapor indicates chemical contamination of the vent's internal filter element

D. Yes, during loading the incoming liquid displaces vapor from the tank's headspace, and the pressurevacuum vent releases this displaced vapor to prevent overpressure

47. A driver operating a tank vehicle on a winter day encounters a section of highway where road salt has been applied. The salttreated pavement is wet but not icy. What maintenance concern should the driver keep in mind regarding the cargo tank?

A. Road salt will contaminate the product inside the tank if any enters through the pressurevacuum vent during driving

B. Road salt spray accelerates corrosion on the tank's external piping, fittings, and underside structures, making thorough posttrip cleaning and inspection important

C. Road salt spray on the exterior of the tank can chemically react with the product inside, causing a pressure increase

D. Road salt has no effect on cargo tanks because all tanks are constructed from corrosionresistant materials that are immune to salt

48. A driver is operating a partially loaded (40%) baffled tank vehicle. Compared to driving the same vehicle at 90% capacity, which specific aspect of vehicle handling is most significantly affected by the lower fill level?

A. The vehicle's maximum speed capability is reduced because the engine must work harder to move the partially loaded tank

B. The vehicle's stopping distance increases because the liquid has more room to surge forward during braking, and rollover risk on curves increases because the liquid has more room to shift laterally

C. The vehicle's fuel economy improves dramatically, allowing the driver to extend the trip distance between fuel stops

D. The vehicle's tire wear rate increases because the reduced weight causes the tires to bounce more frequently on rough road surfaces

49. A tank vehicle driver arrives at a customer's farm to deliver liquid fertilizer. The fill pipe for the customer's storage tank is located next to a small creek that runs through the property. What environmental precaution should the driver take before beginning the delivery?

A. Position the vehicle and hoses so that any accidental spill would flow away from the creek rather than toward it, and have absorbent materials ready to contain any drips or minor leaks near the fill connection

B. Begin the delivery immediately because liquid fertilizer is a nonhazardous agricultural product with no environmental restrictions

C. Refuse to make the delivery because federal regulations prohibit any tank vehicle operations within 500 feet of any natural waterway

D. Pump the creek water downstream using the vehicle's PTO pump before beginning the delivery to create a dry buffer zone

50. A driver has been operating a loaded tank vehicle for eight hours and is approaching the end of the available driving time under hours of service regulations. The delivery destination is approximately 30 minutes away. The driver is fatigued but believes they can make it. What is the safest decision?

A. Continue driving to the destination because the delivery is only 30 minutes away and stopping now would inconvenience the customer

- B. Take a stimulant such as caffeine pills to maintain alertness for the remaining 30 minutes of driving
- C. Increase speed to reach the destination faster, reducing the total time the fatigued driver must remain behind the wheel
- D. Stop at a safe location and rest — driving a loaded tank vehicle while fatigued significantly increases the risk of errors that cause rollovers, lane departures, and delayed emergency responses

Practice Exam 8: Answer Key and Explanations

- 1. C** — Emergency response information must be included with or attached to the shipping papers and must be immediately accessible in the cab throughout the entire trip. This information provides materialspecific hazard data, protective actions, and first aid instructions that emergency responders need during the critical first minutes of an incident. Storing it at the carrier's office or on a personal device does not satisfy the accessibility requirement.
- 2. A** — The shipper's certification must be signed by the shipper or an authorized representative to be legally valid. An unsigned certification means the shipper has not formally attested that the material has been properly classified, described, packaged, marked, labeled, and is in proper condition for transport. The driver should refuse the shipment until the shipper provides a properly signed certification.
- 3. B** — Heavy fog dramatically reduces visibility, which directly affects the driver's ability to perceive hazards and stop in time. In a tank vehicle, where stopping distance is already extended by liquid surge, the driver must reduce speed enough to stop within the visible distance ahead. Lowbeam headlights reduce glare reflection from fog particles, and increased following distance provides additional reaction time.
- 4. D** — Both Division 2.3 Poison Gas and Division 4.3 Dangerous When Wet are Table 1 materials, which means each requires its specific placard at any quantity — there is no minimum weight threshold. Both POISON GAS and DANGEROUS WHEN WET placards must be displayed on all four sides of the vehicle. The DANGEROUS placard cannot substitute for any Table 1 placard.
- 5. B** — The driver should respond professionally and factually, explaining that the placards indicate flammable cargo and that the vehicle is operated under strict federal safety regulations. Encouraging the passerby to maintain a reasonable distance is appropriate general safety advice. Exaggerating the danger, refusing to communicate, or inviting access to shipping papers are all inappropriate responses.
- 6. A** — The HazMat endorsement is valid for five years. Renewal requires a new TSA security threat assessment (background check and fingerprinting), passing the HazMat knowledge test again at the state DMV, and payment of applicable TSA and state fees. The endorsement does not renew automatically and cannot be maintained without completing the full renewal process.

7. D — Placards must be displayed in diamond orientation with one point facing upward. A placard mounted in square orientation (flat side up) does not comply with regulations, even if the correct hazard class is shown. The diamond orientation is part of the standardized visual language that emergency responders, law enforcement, and other motorists are trained to recognize instantly.

8. C — Statespecific HazMat transportation requirements vary and may include special permits, route restrictions, escort requirements, and advance notification obligations. The carrier's safety department or dispatch is the appropriate source for this information, as they should have established procedures and route plans that account for statespecific compliance requirements along each route.

9. A — No single Table 2 hazard class reaches the 1,001pound threshold independently (800, 500, and 200 pounds). However, the combined aggregate of all Table 2 materials is 1,500 pounds, which exceeds 1,001 pounds. DANGEROUS placards may be used when two or more Table 2 classes are present and the combined total meets the threshold while no single class reaches it on its own.

10. B — CHEMTREC (Chemical Transportation Emergency Center) is one of the most widely used and fully compliant emergency response information services in the HazMat industry. It operates 24 hours a day, 7 days a week, and is staffed by personnel with comprehensive knowledge of hazardous materials. Using CHEMTREC's number as the emergency response telephone number on shipping papers satisfies the regulatory requirement.

11. D — For cargo tanks, the fourdigit identification number must be displayed on each side and each end of the tank — a total of four locations. This can be done on the placard itself, on orange panels adjacent to the placards, or on a white squareonpoint display. This ensures that emergency responders approaching from any direction can identify the specific material inside the tank.

12. B — A posted bridge weight limit must be obeyed. Crossing a bridge with a vehicle that exceeds the weight limit risks structural failure of the bridge and is a traffic violation. The driver must find an alternate route that can accommodate the vehicle's gross weight while maintaining compliance with all applicable HazMat routing requirements, even if the alternate route adds significant distance.

13. C — ORMD (Other Regulated Materials, Domestic) is a designation for consumer commodities containing hazardous materials in limited quantities — such as aerosol sprays, small containers of solvents, and certain health and beauty products. These shipments may be exempt from placarding and the HazMat endorsement requirement when the quantities per package fall within specific regulatory thresholds.

14. A — A strong chemical solvent odor inside a trailer carrying Class 3 Flammable Liquid indicates the possible presence of flammable vapors, which could ignite from a spark or static discharge. The driver should not enter the trailer without ventilation. Close the doors, allow the space to ventilate by opening them from a safe position upwind, and investigate the source of the odor before proceeding.

15. D — Division 1.3 Explosives are Table 1 materials requiring the vehicle to be attended at all times. The only exception for leaving a placarded vehicle unattended is parking in a safe

haven — a fenced, secured facility specifically approved for parking unattended HazMat vehicles. Public rest areas, shopping centers, and highway shoulders are not safe havens.

16. C — A placarded vehicle must stop within 50 feet of the nearest rail but not closer than 15 feet. The 15-foot minimum provides clearance for crossing gates and prevents the vehicle from being struck by the overhang of a passing train. The 50-foot maximum ensures the driver is close enough to see and hear approaching trains before proceeding across the crossing.

17. B — The vehicle must display four identical placards matching the hazard class of the material currently on board. The shipping papers confirm the load is Class 3 Flammable Liquid only, so all four placards must be FLAMMABLE. The two OXIDIZER placards — likely remnants from a previous load — must be removed and replaced with the correct FLAMMABLE placards.

18. A — A flash point of 60°F is below 73°F, and a boiling point of 170°F is above 95°F. Under the Class 3 Flammable Liquid packing group criteria, this combination places the material in Packing Group II (Medium Danger). PG II flammable liquids have flash points below 73°F and boiling points above 95°F, making them readily ignitable but not as volatile as PG I materials.

19. D — An address discrepancy between the shipping papers and the delivery location could indicate a legitimate address change, but it could also indicate that the cargo is being delivered to the wrong location — an unauthorized facility or a diversion attempt. The driver should contact the carrier for verification before releasing the shipment to ensure proper chain-of-custody compliance.

20. C — A HazMat driver can legitimately use the ERG to look up the material's identification number and find the recommended initial isolation distances, helping the driver determine how far to move from the vehicle after a release. The ERG is designed as a first-response tool for exactly this purpose — providing immediate guidance during the critical first minutes before professional responders arrive.

21. B — When the driver is at the controls, shipping papers must be within the driver's immediate reach — either in the driver's door pouch or on the seat beside the driver within arm's reach. The passenger seat may not be within immediate reach depending on the cab configuration. Having the papers on the passenger seat for six hours likely constitutes a sustained accessibility violation.

22. D — Posted HazMat lane restrictions at bridges, tunnels, and toll facilities must be obeyed. The driver should safely merge into the designated right lane before reaching the bridge entrance. These restrictions are typically implemented because specific lanes provide safer containment or emergency access in case of a HazMat incident on the bridge.

23. A — The National Response Center (18004248802) is the federal facility that receives mandatory incident reports when a reportable quantity of hazardous material is released during transport, or when other NRC reporting triggers are met. CHEMTREC (18004249300) provides technical emergency response guidance. The NRC is for reporting; CHEMTREC is for response information.

24. C — Packages with orientation arrows must be loaded upright with the arrows pointing up. The arrows indicate the package contains liquids in inner containers, and the upright orientation keeps the liquid away from closures to prevent leaking. Loading these packages on their sides with arrows pointing horizontally defeats the orientation system and creates a leak risk.

25. B — Drivers transporting hazardous materials should operate over routes that avoid heavily populated areas, places where crowds assemble, tunnels, narrow streets, and alleys — unless there is no practicable alternative route. When no alternative exists, the driver may use the residential route but should exercise heightened caution and minimize time spent in the populated area.

26. D — Division 6.1 Toxic materials in Packing Group I with Inhalation Hazard Zone A are among the most dangerous materials transported on public highways. They require the specific POISON INHALATION HAZARD placard — not the standard POISON placard used for other Division 6.1 materials. This placard is required at any quantity because these materials are Table 1.

27. A — The driver should review the shipping papers before loading to verify that the material descriptions match the cargo, that all required entries are complete, that the emergency response telephone number is present, and that the shipper's certification is signed. Reviewing papers after loading means the driver has already accepted and loaded material without confirming regulatory compliance.

28. C — Class 9 Miscellaneous Hazardous Materials are genuinely hazardous despite their classification as the lowest-numbered risk category. Lithium batteries can overheat, undergo thermal runaway, catch fire, and produce toxic fumes under conditions such as short circuits, physical damage, or manufacturing defects. Their classification as Class 9 reflects a real but less immediately catastrophic hazard profile.

29. A — A fallen cylinder that still has its protective valve cap in place and shows no signs of leaking can likely be safely uprighted and resecured. The driver should upright the cylinder, verify the valve cap is handtight, resecure it in the proper transport position, and check all other cylinders on the trailer for shifting. If the valve cap were missing or the cylinder were leaking, the response would be very different.

30. D — Three different placards are required: FLAMMABLE for the Class 3 materials exceeding 1,001 pounds, CORROSIVE for the Class 8 material exceeding 1,001 pounds, and POISON for the subsidiary Division 6.1 hazard indicated by Column 6 of the Hazardous Materials Table. When a subsidiary hazard label is required on packages, a subsidiary placard must also be displayed on the vehicle.

31. C — Advisory speeds on exit ramps are calculated for passenger cars with low centers of gravity and no liquid surge. A loaded tank vehicle should enter the ramp at well below the posted advisory speed — typically 510 mph slower, or more in wet conditions. Entering a sharp right curve at or above the advisory speed in a loaded tanker creates significant rollover risk from lateral surge and centrifugal force.

32. A — Securing discharge valve handles with cotter pins, clips, or other restraining devices to prevent accidental opening during transit is a proper and recommended safety practice. Road vibration, impact from potholes, and shifting cargo can cause unsecured valve handles to rotate,

potentially opening the valve and releasing product. The securing device is removed before delivery operations begin.

33. D — The sidetoside rocking after a sudden lane change is caused by liquid oscillating laterally inside the tank — a phenomenon called sloshing resonance. Additional steering inputs or braking can amplify the oscillations rather than dampen them. The driver should hold the steering wheel steady, avoid braking, and gradually reduce speed by easing off the accelerator, allowing the oscillations to dampen naturally through friction and viscosity.

34. B — Spongy, less responsive brakes on a flat, straight road — where surge is not a factor — most likely indicate a mechanical issue with the brake system rather than a surgerelated handling change. A slow air leak reducing brake chamber pressure is a common cause. The driver should check the air pressure gauge immediately and stop to investigate if pressure is dropping below normal operating levels.

35. C — With only 200 gallons of outage (2% of 10,000 gallons), a 50°F temperature increase from morning to afternoon could cause the product to expand beyond the available outage space. The rate of expansion depends on the product's thermal coefficient, but many liquids expand approximately 1% per 15°F, meaning a 50°F swing could require 3% or more outage. The 2% available may be insufficient, risking overpressure.

36. A — Even when brakes are functioning normally, the driver should mentally note the location of runaway truck ramps as a potential emergency escape route. Brake failure can occur suddenly and without warning — particularly on long, steep downgrades where sustained braking generates heat. Knowing the ramp location in advance gives the driver an immediate plan if brakes begin to fade during the descent.

37. B — The customer's tank has 2,500 gallons of available capacity ($10,000 - 7,500 = 2,500$), but the driver has 3,000 gallons to deliver. Pumping the full 3,000 gallons into a tank with only 2,500 gallons of space would overflow the receiving tank by 500 gallons. The driver must deliver only the quantity the tank can safely accept or arrange for the excess to be addressed.

38. D — MC 338 cryogenic tanks maintain extremely low internal temperatures through vacuum insulation, but heat inevitably leaks through the insulation over time. This gradual heat influx warms the liquid nitrogen, causing some of it to vaporize, which steadily increases the internal pressure. This is expected behavior, and the tank's pressure relief system is designed to manage it within the MAWP limits.

39. C — A hydraulic fluid leak from the PTO unit indicates a mechanical failure that could worsen during continued operation. Hydraulic fluid is flammable and can ignite if it contacts hot engine components or exhaust surfaces. The driver should stop the pump, close all discharge valves to secure the remaining product, and have the hydraulic leak assessed and repaired before resuming operations.

40. B — MC 306 was the predecessor cargo tank specification that was replaced by DOT 406 when the regulations were updated. Many cargo tanks originally built to MC 306 standards remain in active service and have been retested under both the original and the updated specification standards throughout their operational lives. Seeing both designations in a tank's testing history is normal and expected.

41. A — Passing a slow vehicle requires acceleration, a lane change to the left, time in the opposing traffic lane, and a lane change back to the right. Each of these actions generates surge forces — forward surge during acceleration, lateral surge during both lane changes. In a loaded tank vehicle, these combined forces increase rollover risk and extend the time needed to complete the pass safely.

42. D — The weight of 5,000 gallons of a liquid with specific gravity 1.8 is calculated as: $5,000 \text{ gal} \times 8.34 \text{ lbs/gal} \times 1.8 = 75,060$ pounds of product alone. When combined with the weight of the empty vehicle and tank, this would far exceed the 80,000-pound federal gross vehicle weight limit. This is why tanks carrying high-density liquids are smaller in capacity — they hit weight limits before volume limits.

43. B — Gravity discharge relies on gravitational force to move liquid from a higher point to a lower point. If the customer's fill pipe is 8 feet above the cargo tank's discharge point, gravity works against the flow direction and the liquid cannot move uphill on its own. A pump must be used to provide the pressure needed to push the product upward to the elevated fill connection.

44. C — Underside piping is the most vulnerable piping on a cargo tank because it is directly exposed to road debris impacts, water spray, salt, mud, and other corrosive road chemicals. It is also the most difficult piping to inspect visually because of its location beneath the tank. Damage to underside piping can go undetected between inspections, making thorough pretrip inspection of this area critically important.

45. A — After a loaded tank vehicle comes to a complete stop, the liquid does not stop instantaneously. It rebounds off the front head and surges backward, then returns forward again in a diminishing oscillation pattern. The driver should expect the vehicle to rock back and forth several times as the liquid settles. Maintaining firm brake pressure throughout these oscillations prevents the vehicle from creeping forward.

46. D — During loading, incoming liquid displaces the vapor in the tank's headspace. The pressure/vacuum vent releases this displaced vapor to prevent overpressure buildup inside the tank. A steady stream of vapor during loading is normal operation — the vent is performing its designed function of maintaining safe internal pressure as the liquid volume increases and the vapor space decreases.

47. B — Road salt spray is highly corrosive to metal surfaces. Over time, salt accelerates corrosion on the tank's external piping, valve fittings, mounting hardware, and underside structures. While the tank shell itself may be constructed from corrosion-resistant materials, external fittings and piping are often made from standard metals that are vulnerable. Thorough posttrip washing and inspection help mitigate salt-induced corrosion.

48. B — At 40% capacity, the liquid has significantly more room to surge forward during braking (extending stopping distance) and to shift laterally during turns (increasing rollover risk) compared to a tank at 90% capacity. The approximately 50% fill level is the worst case for both effects, and 40% is close enough to produce near-maximum surge intensity with reduced total weight providing less tire traction.

49. A — The proximity of the creek creates an environmental contamination risk if any product is spilled during the delivery. The driver should position the vehicle and hoses so that any

accidental release flows away from the creek, and should have absorbent materials ready to contain any drips or minor leaks at the fill connection. Protecting waterways from contamination is a basic environmental responsibility.

50. D — Driving a loaded tank vehicle while fatigued is extremely dangerous. Fatigue impairs reaction time, judgment, and the precise control inputs that tank vehicles demand. A fatigued driver is more likely to overbrake, misjudge curves, miss warning signs, and make the errors that cause rollovers, lane departures, and delayed emergency responses. The safest decision is always to stop and rest.