

- ▶ **Know how full to load your vehicle.** A full tank of dense liquid, such as some acids, may exceed legal weight limits. Therefore, you may only partially fill tanks with heavy liquids. The amount of liquid that you can load into a tank depends on:
  - ▶ the amount that the liquid will expand during transit;
  - ▶ the weight of the liquid; and,
  - ▶ the legal weight limits.
- ▶ **Drive smoothly.** Because your tank vehicle has a high center of gravity and because of liquid surge, you must start, slow down and stop smoothly. You must also make smooth turns. Otherwise, your vehicle could roll over.
- ▶ **Use controlled or stab braking.** If you must stop quickly to avoid a crash, use controlled or stab braking. Remember, if you steer quickly while braking, your vehicle could roll over.

## Safe Driving Rules

- ▶ **Slow down before curves.** Then, accelerate slightly through the curve. The posted speed for a curve may be too fast for a tank vehicle. Stay below the posted speed.
- ▶ **Maintain a safe stopping distance between you and the vehicle ahead.** Remember, wet roads double the normal stopping distance. Empty tank vehicles may take longer to stop than loaded ones.
- ▶ **Don't over-steer, over-accelerate or over-brake.** This could cause your vehicle to skid or roll over. If your drive wheels or trailer wheels begin to skid, your vehicle may jackknife. If your vehicle starts to skid, take immediate action to restore traction to the wheels.

## Section 8: Transporting Passengers

Every Virginia CDL test includes information from Section 1: General Knowledge.



**You must have** a commercial driver's license if you plan to drive a vehicle designed to carry 16 or more passengers including the driver. You must also have a passenger endorsement on your CDL. To get the endorsement, you must pass:

- ▶ the written general knowledge exam;
- ▶ the written passenger bus exam;
- ▶ the written air brakes exam if your vehicle is equipped with air brakes;
- ▶ the skills test required for the class of vehicle that you plan to drive.

Note: If you hold a CDL with a Passenger endorsement and are required to be registered with the Virginia State Police Sex Offenders and Crimes Against Children registry, you are prohibited from operating a commercial motor vehicle to transport children to or from activities sponsored by a school or by a child day care facility licensed, regulated, or approved by the Virginia Department of Social Services. Your CDL will display a Q restriction.

## Pre-trip Inspection

Before driving your bus, make sure it is safe.

- ▶ **Review the inspection report made by the previous driver.** Sign the previous driver's report only if the defects reported earlier have been certified as repaired or certified as not needing repair. By signing this report, you certify that the defects reported earlier have been fixed.
- ▶ **Conduct a pre-trip inspection.** Follow the inspection method outlined in Section 1: General Knowledge.

## Section 8: Transporting Passengers

### ▶ Also check:

- ▶ **Access doors and panels:** Close any emergency exits that are open as well as access panels (for baggage, restroom service, engine, etc.) before driving.
- ▶ **Bus Interior:**
  - ▶ Aisles and stairwells should always be clear.
  - ▶ Be sure that handholds and railings, floor covering, signaling devices (including the restroom emergency buzzer) and emergency exit handles are in good working order.
  - ▶ Be sure that all seats are securely fastened to the bus.
  - ▶ Never drive with an open emergency exit door or window.
  - ▶ The emergency exit sign on an emergency door must work. If the door has a red emergency light, the light must work. Turn it on at night and whenever you use your outside lights.
- ▶ **Roof hatches:** You may lock some emergency roof hatches in a partly open position for fresh air. However, do not leave them open all the time. Remember that the bus will have a higher clearance when the hatches are open.
- ▶ **Safety equipment:** Be sure your bus has a fire extinguisher and emergency reflectors as required by law. The bus must also have spare electrical fuses unless equipped with circuit breakers.

**Always fasten your safety belt when you drive.**

### Loading the Bus

- ▶ Secure all baggage and freight so that:
  - ▶ You can move freely and easily;
  - ▶ Riders sitting by any window or door can exit in an emergency;
  - ▶ Riders will not be injured if carry-ons fall or shift;
  - ▶ All aisles and doorways are clear. Folding aisle seats are not allowed.
- ▶ **Watch for cargo or baggage containing hazardous materials.** Hazardous materials pose a risk to health, safety and property. Most hazardous materials cannot be carried on a bus. Federal regulations require shippers to mark containers of hazardous materials with the material's name, ID number and hazard label. There are nine different hazard labels. The labels are four-inches and diamond shaped. Do not transport hazardous materials unless you are sure federal regulations allow it.

### ▶ Buses may carry:

- ▶ Small-arms ammunition labeled ORM-D
- ▶ Emergency hospital supplies and drugs

### ▶ Buses may never carry:

- ▶ Class 2 poison, liquid Class 6 poison, tear gas or irritating material
- ▶ More than 100 pounds of solid Class 6 poisons
- ▶ Explosives in the space occupied by passengers, except small arms ammunition
- ▶ Labeled radioactive materials in the space occupied by passengers
- ▶ More than 500 pounds total of allowed hazardous materials and no more than 100 pounds of any one class

Riders may sometimes board a bus carrying an unlabeled hazardous material. Do not allow riders to carry on common hazards such as car batteries or gasoline.

- ▶ **Do not allow riders to stand forward of the back of the driver's seat.** Buses designed to allow standing must have a 2 inch line on the floor or some other marking that shows riders where they cannot stand. This is called the standee line. All standing riders must stay behind it.

## Safe Driving with Buses

### Passenger Supervision

Many charter and intercity carriers have passenger comfort and safety rules. Mention rules about smoking, drinking and use of radio and tape players at the start of the trip. Explaining the rules at the beginning could help avoid trouble later on. Charter bus drivers should not allow passengers on the bus until departure time.

While driving, scan the interior of your bus, as well as the road ahead. You may need to remind riders to keep their arms and heads inside the bus.

Occasionally, you may have a drunk or disruptive rider. You must ensure this rider's safety as well as the safety of others. Don't discharge disruptive riders where it would be unsafe for them. It may be safer to wait until you reach the next scheduled stop or well-lighted area where there are other people. Many carriers have guidelines for handling disruptive riders.

When you stop the bus, announce the location, reason for stopping, departure time and bus number. Caution riders to watch their step when leaving the bus. Wait for riders to sit down or brace themselves before starting the bus. Starting and stopping should be as smooth as possible to avoid rider injury.

## Avoiding Crashes

- ▶ Use caution at all intersections, even if a signal or stop sign controls the intersection. Bus crashes often happen at intersections.
- ▶ Remember the clearance your bus needs. Watch for poles and tree limbs when you stop. Know how much space your bus needs to accelerate and merge with traffic. Never assume other drivers will brake to give you room when you signal or begin to pull out.
- ▶ Reduce speed on curves. Crashes on curves result from excessive speed. In good weather, the posted speed on a curve is safe for cars, but may be too fast for buses. If your bus leans toward the outside on a banked curve, you are driving too fast.
- ▶ Stop at railroad crossings.
  - ▶ Stop your bus between 15 and 50 feet before railroad crossings.
  - ▶ Listen and look in both directions for trains.
  - ▶ Improve your ability to see or hear an approaching train by opening your forward door.
  - ▶ If a train has just passed, make sure that another train isn't coming from the opposite direction.
  - ▶ If your bus has a manual transmission, never change gears while crossing the tracks.
- ▶ Slow down and check for other vehicles:
  - ▶ At street car crossings.
  - ▶ At railroad tracks used only for industrial switching within a business district.
  - ▶ Where a policeman or flagman is directing traffic.
  - ▶ If a traffic signal shows green.
  - ▶ At crossings marked exempt or abandoned.
- ▶ Stop at drawbridges that do not have a signal light or traffic control attendant.
  - ▶ Stop at least 50 feet before the draw of the bridge.
  - ▶ Make sure the draw is completely closed before crossing.
- ▶ Slow down at drawbridges that show a green traffic light or that have an attendant that controls traffic when the bridge opens.

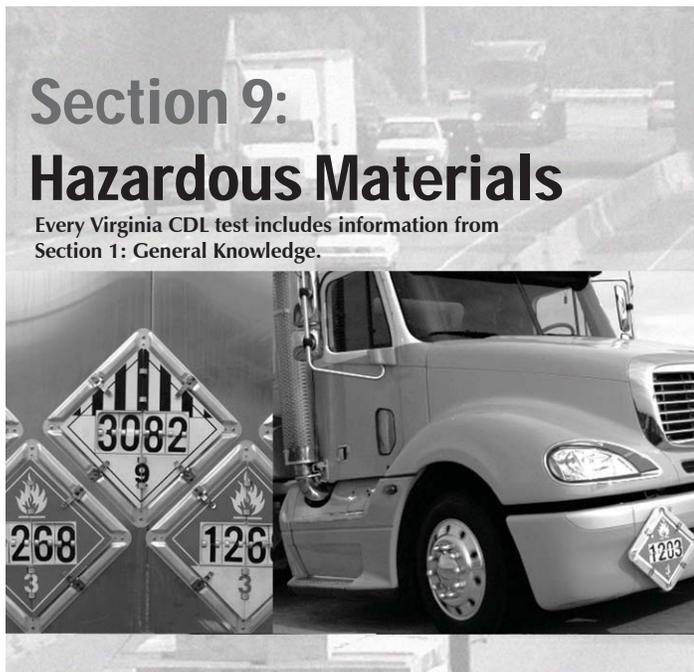
## After-trip Vehicle Inspection

Inspect your bus at the end of each shift. If you work for an interstate carrier, you must complete a written inspection report for each bus driven. The report must specify each bus and list any defect that would affect safety or result in a breakdown. The report must also state if there are no defects.

Report damage to hand-holds, seats, emergency exits and windows at the end of your shift. Mechanics can make repairs before the bus goes out again. Mass transit drivers should also make sure passenger signaling devices and brake-door interlocks work properly.

## Prohibited Practices

- ▶ Avoid fueling your bus with riders on board unless absolute necessary. Never refuel the bus in a closed building with riders on board.
- ▶ Don't talk with riders or engage in distracting activity while driving.
- ▶ Do not tow or push a disabled bus with riders on board unless getting off would be unsafe. Tow or push the bus to the nearest safe spot to discharge passengers. Follow your employer's guidelines on towing or pushing disabled buses.
- ▶ Urban transit coaches may have a brake and accelerator interlock system. The interlock applies the brakes and holds the throttle in idle position when the rear door is open. The interlock releases when you close the rear door. Do not use this safety feature in place of the parking brake.



**Hazardous materials** (HAZMAT) endorsements are not transferable from other states. All tests must be taken. HAZMAT tests cannot be given orally or in a language other than English. The federal USA Patriot Act requires all applicants for HAZMAT endorsements to be fingerprinted for a background check. The HAZMAT background check may be transferred from another state. The background check fee is \$83.00. See page 83 of this manual for more information about background checks and fingerprinting locations.

Applicants for hazardous materials endorsements must comply with Transportation Security Administration requirements in 49 C.F.R. Part 1572. A lawful permanent resident of the United States requesting a hazardous materials endorsement must also provide his U.S. Citizenship and Immigration Services (USCIS) alien registration number.

Compliance with Federal motor carrier safety regulations. "...a motor carrier or other person to whom this part is applicable must comply with the rules in parts 390 through 397, inclusive, of this subchapter when he/she is transporting hazardous materials by a motor vehicle which must be marked or placarded in accordance with §177.823 of this title." —The Code of Federal Regulations

**Hazardous Materials Definition**

Hazardous materials (HAZMAT OR HM) pose a risk to health, safety and property during transportation. Hazardous materials include explosives, various types of gas, solids, flammable and combustible liquids and other materials. Because of the risks involved, government at all levels regulates the transportation of hazardous materials and requires CDL drivers to be at least 21 years of age. HAZMAT endorsements are not transferable from state to state.

Hazardous materials are categorized into nine major hazard classes. The following chart shows the classes and categories and gives examples of materials in each one.

Class	Name	Example
1	Explosives	Ammunition, Dynamite, Fireworks
2	Gases	Propane, Oxygen, Helium
3	Flammable	Gasoline, Alcohol, Diesel Fuel, Fuel Oils
4	Flammable Solids	Matches, Magnesium
5	Oxidizers	Ammonium Nitrate, Hydrogen Peroxide
6	Poisons	Pesticides, Arsenic
7	Radioactive	Uranium, Plutonium
8	Corrosives	Hydrochloric Acid, Battery Acid, Formaldehyde
9	Miscellaneous Hazardous Materials	Asbestos, Airbag Inflators & Modules
None	ORM-D (Other Regulated Material—Domestic)	Hair Spray or Charcoal
Combustible Liquid	Combustible Liquid	Heating Oil

**Hazardous Materials Regulations**

The Code of Federal Regulations gives regulations for hazardous materials. These regulations are located in title 49, parts 171-180. You will hear these regulations referred to as 49 CFR 171-180.

The Hazardous Materials Table in the regulations includes a list of hazardous materials. However, this table does not show all hazardous materials. A material is considered hazardous based on its characteristics. A shipper decides if a product meets the definition of a hazardous material in the regulations.

**Because the federal regulations change often, be sure that your copy is up to date. You may get a copy from your local Government Printing Office bookstore and various publishers. Union or company offices often have copies for drivers to use.**

**Intent of the Federal Regulations**

Transporting hazardous materials can be risky. Federal regulations tell you how to **contain the material** and **communicate the risk**. They also **assure safe drivers and equipment**.

- ▶ Packaging rules tell shippers how to package the materials safely. They also tell drivers how to load, transport and unload the material.

- ▶ To communicate the risk, shippers use hazard warning labels and markings on packages. They also provide shipping papers, emergency response information and placards. These labels and papers communicate the hazard to the shipper, carrier and the driver.
- ▶ To assure safe drivers, anyone who transports hazardous materials must have a commercial driver's license (CDL) and a hazardous materials endorsement. To pass the test for the hazardous materials endorsement, a driver must know how to:
  - ▶ Identify hazardous materials;
  - ▶ Safely load shipments;
  - ▶ Placard a vehicle in accordance with federal regulations;
  - ▶ Safely transport shipments.

## Follow the Regulations

Learn the regulations and follow them. For example, you must have a current medical card in your possession to haul hazardous materials. Following the regulations reduces the risk of injury from hazardous materials. Taking shortcuts and breaking the rules is unsafe and could be deadly. Additionally, drivers who violate the regulations can be fined and put in jail.

Inspect your vehicle before and during each trip. Police may stop and inspect your vehicle. When stopped, they may check your shipping papers, vehicle placards, the hazardous materials endorsement on your driver's license and your knowledge of hazardous materials.

## Licensing and Endorsements

You must have a commercial driver's license (CDL) with a hazardous materials endorsement to drive a vehicle carrying hazardous materials that requires placards. You must pass a written test to get this endorsement.

Everything you need to know to pass the written test is in this section. However, this is just the beginning. You can learn more by reading the federal and state regulations for hazardous materials and by attending training courses.

## Training Requirements

Hazardous materials courses are usually offered by your employer, colleges, universities and associations. In fact, the federal regulations require training and testing for all drivers who transport hazardous materials. You must be trained and tested at least once every 3 years. Your employer must provide this training and testing. Your employer must also keep a record of the training completed by each employee who works with hazardous materials.

Federal regulations also require that drivers receive special training before driving a vehicle transporting certain flammable gas materials or highway/route-controlled

radioactive materials. Drivers transporting cargo tanks and portable tanks must also receive specialized training. Your employer must provide this training.

## Permits

The majority of states and some localities require registrations or permits to transport hazardous material or subsets of such materials. In Virginia, a permit is required for transporting hazardous waste. States and counties may also require drivers to follow special hazardous materials routes. The federal government may require permits or exemptions for special hazardous materials cargo such as rocket fuel. Find out about permits, exemptions and special routes for the places that you drive.

## Transporting Hazardous Materials — The Key Players

**The shipper** sends hazardous products from one place to another by truck, rail, ship or airplane. The shipper:

- ▶ Uses hazardous materials regulations to determine the product's:
  - ▶ proper shipping name;
  - ▶ hazard class;
  - ▶ identification number;
  - ▶ correct packaging;
  - ▶ correct label and markings;
  - ▶ correct placards.
- ▶ Prepares products for shipping. The shipper:
  - ▶ packages, marks and labels all materials;
  - ▶ prepares shipping papers;
  - ▶ provides emergency response information;
  - ▶ supplies placards.
- ▶ Certifies on the shipping paper that the shipment has been prepared according to federal regulations. If you are pulling cargo tanks supplied by you or your employer, the certification statement is not required.

**The carrier** is a person or company engaged in the transportation of passengers or property as a for-hire or private carrier. The carrier:

- ▶ Takes the shipment from the shipper to its destination.
- ▶ Refuses improper shipments.
- ▶ Reports accidents and incidents involving hazardous materials to the proper government agency.

**The driver** safely transports the shipment without delay. The driver:

- ▶ Makes sure the shipper has identified, marked and labeled the hazardous materials.
- ▶ Refuses leaking packages and shipments.

## Section 9: Hazardous Materials

- ▶ Placards his vehicle when loading, if required.
- ▶ Follows all regulations about transporting hazardous materials.
- ▶ Keeps hazardous materials shipping papers and emergency response information in the proper place.

### Communication Rules

A material's hazard class shows the risks associated with it. There are 9 different hazard classes. The chart below gives the meaning of each hazard class and lists the types of materials included in each class.

Class	Division	Name of Class or Division	Example
1	1.1	Explosives (Mass Detonation)	Dinitrophenol
	1.2	Projections Hazards	Ammunition Smoke, White Phosphorus
	1.3	Mass Fire Hazards	Article, Explosive No. 5
	1.4	Minor Hazards	Fireworks
	1.5	Very Insensitive	Blasting Agents Explosive, Blasting, Type E
	1.6	Extremely Insensitive	Article, Explosive Extremely Insensitive
2	2.1	Flammable Gases	Propane
	2.2	Non Flammable Gases	Helium, Compressed
	2.3	Poisonous/Toxic Gases	Fluorine, Compressed
3		Flammable Liquids	Gasoline, Alcohol, Diesel Fuel, Fuel Oils
4	4.1	Flammable Solids	Ammonium Picrate, Wetted
	4.2	Spontaneously Combustible	Phosphorus, White Dry
	4.3	Dangerous When Wet	Sodium
Class	Division	Name of Class or Division	Example
5	5.1	Oxidizers	Ammonium Nitrate, Liquid
	5.2	Organic Peroxides	Organic Peroxide Type B, Liquid
6	6.1	Poison (Toxic Material)	Potassium Cyanide
	6.2	Infectious Substances	Diagnostic Specimen
7		Radioactive	Radioactive Material, Uranium Hexafluoride
8		Corrosives	Sulfuric Acid
9		Miscellaneous Hazardous Materials	Airbag Inflators, Asbestos
None		ORM-D (Other Regulated Material-Domestic)	Consumer Commodity
Combustible Liquid		Combustible Liquid	Diesel Fuel, Fuel Oil

#### Definitions

A **shipping paper** describes the hazardous materials being transported. Shipping papers include shipping orders, bills of lading and manifests.

After an accident or hazardous materials accident or spill, you may be injured and unable to tell others about your hazardous cargo. Firefighters and police can prevent or reduce the amount of damage and injury if they know about the hazardous materials you are carrying. Your life and the lives of others could depend on quickly locating hazardous materials shipping papers.

- ▶ Shippers must describe hazardous materials correctly and include an emergency response telephone number on the shipping papers.
- ▶ Carriers and drivers must tab hazardous materials shipping papers or keep them on top of other shipping papers. They must also keep the emergency response information with the shipping papers.
- ▶ Drivers must keep hazardous materials shipping papers:
  - ▶ In a pouch on the driver's door, or

- ▶ In clear view within immediate reach while the driver's safety belt is fastened, or
- ▶ On the driver's seat when the driver is out of the vehicle or in a pouch on the driver's door.

**Package labels** are diamond-shaped hazard warning labels found on most hazardous materials packages. These labels inform others of the hazard. If the diamond label does not fit on the package, shippers may put the label on a tag attached to the package. For example, compressed gas cylinders often have tags or decals.

**Placards** warn others of hazardous materials. They are placed on the outside of the vehicle and identify the hazard class of the cargo. A placarded vehicle must have at least four identical placards. Placards must be readable from all four directions. Therefore, they are put on the front, rear and both sides of the vehicle.

Placards measure 10 ¾ inches square and are turned in a diamond shape. Cargo tanks and other bulk packaging display the identification number of their contents on placards. Or they may use orange panels or white diamond-shape displays the same size as placards.

## Lists of Regulated Products

Shippers, carriers and drivers use three lists to identify hazardous materials.

- ▶ **The Hazardous Materials Table** in the federal regulations;
- ▶ **Appendix A** to the Hazardous Materials Table—the List of Hazardous Substances and Reportable Quantities, and
- ▶ **Appendix B** to the Hazardous Materials Table—the List of Marine Pollutants.

Before transporting a material, look for its name on these three lists. Some materials may be on all lists. Others may be on only one.

**The Hazardous Materials Table** shows each material's shipping name, hazard class, ID number, packaging group and required labels. The illustration below shows part of the table.

§172.101 Hazardous Materials Table									
Symbols	Hazardous materials descriptions and proper shipping names.	Hazard class or Division	Identification Numbers	Packing Group	Label(s) required (if not excepted)	Special provisions		8) Packaging authorizations (§ 173.***)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	Exceptions	Non-bulk packaging	Bulk packaging
							(8A)	(8B)	(8C)
-----	Poisonous, solids, self heating, n.o.s. ...	6.1	UN3124	1	Poison, Spontaneously combustible	A5 _____	None	211	241

**Column 1** tells which shipping mode(s)—such as *air* or *water*—the entry affects. Five different symbols may appear in Column 1. This column also provides information about the material's proper shipping name.

- + shows the proper shipping name, hazard class and packing group to use, even if the material doesn't match the hazard class definition.
- A means the hazardous material described in Column 2 is subject to the Hazardous Materials Regulations (HMR) only when offered or intended for transport by air, unless it is a hazardous substance or hazardous waste.
- W means the hazardous material described in Column 2 is subject to HMR only when offered or intended for transportation by water unless it is a hazardous substance, hazardous waste or marine pollutant.
- D means the proper shipping name is appropriate for describing materials for domestic transportation, but may not be proper for international transportation.
- I identifies a proper shipping name that is used to describe materials for international transportation. A different shipping name may be used when only domestic transportation is involved.

G identifies proper shipping name for which one or more technical names of the hazardous material must be entered in parenthesis in association with the basic description.

**Definition:** Domestic transportation refers to movement of materials within the U.S. International transportation refers to movement of materials through a foreign country.

**Column 2** lists the proper shipping names and descriptions of regulated materials. (Regulated materials are materials that meet the definition of a hazardous material.) Entries are in alphabetical order. The table shows proper shipping names in regular type. The shipping paper must show proper shipping names. Names shown in italics are not proper shipping names.

**Column 3** shows a material's hazard class or division. Or, it may show the entry FORBIDDEN. Never transport a FORBIDDEN material. You placard shipments based on the hazard class and quantity of materials being carried.

**Column 4** lists the identification number for each proper shipping name. Identification numbers are preceded by the letters UN or NA. The letters NA indicate North American. They are associated with proper shipping names that are used only within the United States and Canada.

The identification number must appear on the shipping paper as part of the shipping description. The number must also appear on the package. The number must appear on cargo

## Section 9: Hazardous Materials

tanks and other bulk packaging. Police and firefighters use this number to quickly identify hazardous materials.

**Column 5** shows the packing group assigned to a material. A packing group categorizes material according to the degrees of danger presented by the material. Packing group I is prescribed for the most dangerous. A Roman numeral must be used.

**Column 6** shows the hazard warning label(s) that shippers must place on packages of hazardous materials. Some

products require more than one label. If the column shows the word NONE, no label is needed.

**Column 7** lists additional provisions that apply to the material. If there is an entry in this column, you must refer to Code of Federal Regulations (49CFR172.102) for specific information.

**Column 8** is divided into three parts. It shows the section numbers of the federal regulations that cover the packaging requirements for each hazardous material.

**Appendix A—List of Hazardous Substances and Reportable Quantities** The Department of Transportation (DOT) and the Environmental Protection Agency (EPA) want to know about spills of hazardous substances. These substances are named in Appendix A of the federal regulations. Part of this list is shown below.

The name Phosgene is starred (\*) because the name also appears in the hazardous materials table.

Spills of 10 pounds or more must be reported.

List of Hazardous Substances and Reportable Quantities – continued			
Hazardous Substance	Other Names That the Product May Be Called	Reportable Quantity (RQ) Pounds (Kilograms)	
Phenyl mercaptan @	Benzinethiol Thiophenol*	100 (45.4)	
Phenylmercuric acetate	Mercury, (acetato-0) phenyl	100 (45.4)	
N-Phenylthiourea Phorate	Thiourea, phenyl	100 (45.4)	
Phosgene*	Phosphorodithioic acid, 0,0-diethyl S-(ethylthio), methylester	10 (4.54)	
Phosphine*	Carbonyl chloride	10 (4.54)	
Phosphoric acid*	Hydrogen Phosphide	100 (45.4)	
Phosphroic acid, diethyl		5000 (2270)	
4-nitrophenyl ester	Diethyl-p nitrophenyl phosphate	100 (45.4)	
Phosphoric acid, lead salt	Lead phosphate	1 (0.454)	

**Column 1** shows names of elements and compounds that are hazardous substances.

**Column 2** shows other names that these substances may be called.

**Column 3** shows the reportable quantity for each product. If you spill this amount of the material or more, you or your employer must report the spill. Packages that contain a reportable quantity of the material will show the letters RQ. The letters RQ will also show on the shipping paper.

If the words INHALATION HAZARD appear on the shipping paper or package, you must use the POISON INHALATION HAZARD, or POISON GAS placards. These placards must be used in addition to other placards required by the product's hazard class. Always display the hazard class and the POISON placards even for small amounts.

**Appendix B** shows the lists of marine pollutants.

## Shipping Paper

The shipping paper shown below describes a shipment.

<b>Shipping Paper</b>		Page 1 of 1	
<b>TO:</b> Wafers R US 88 Valley Street Silicon Junction, CA		<b>FROM:</b> Essex Corporation 5775 Dawson Avenue Coleta, CA 93117	
<b>QTY</b>	<b>HM</b>	<b>Description</b>	<b>WEIGHT</b>
10 ctns	X	Paint, 3, UN1263, PG II	500 lbs.
This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations to the Department of Transportation.			
Shipper:	Essex Corp.	Carrier:	Knuckle Bros.
Per:	Shultz	Per:	
Date: 6/27/88		Date:	

- ▶ A shipping paper for hazardous materials must include:
  - ▶ **page numbers** if the shipping paper has more than one page. The first page must show the total number of pages. For example, “page 1 of 4.”
  - ▶ **a proper shipping description** for each hazardous material. Refer to the following section **Shipping Description** for a list of items in the shipping description.
  - ▶ **a shipper’s certification** signed by the shipper. This certification states that the shipper prepared the shipment according to federal regulations.
- ▶ If the shipping paper describes hazardous and non-hazardous products, the hazardous materials will be:
  - ▶ described first, or
  - ▶ highlighted in a contrasting color, or
  - ▶ identified by an X placed before the shipping name in a column labeled HM. If a reportable quantity is present in one package, the letters RQ may be used instead of X.

### Shipping description

- ▶ The shipping description for a hazardous material includes (in this order):
  - ▶ the proper shipping name;
  - ▶ hazard class or division;
  - ▶ the identification number and;
  - ▶ the packing group—the group is displayed in Roman numerals (for example, I, II, III). The numerals may be preceded by the letters PG.

**Definition:** A hazard class indicates the general nature of the hazard. Within some classes, divisions exist to indicate additional hazards.

For example, Class 2 covers all compressed gases. Within Class 2:

- ▶ Division 2.1 = Flammable Gas
- ▶ Division 2.2 = Nonflammable Gas
- ▶ Division 2.3 = Poison Gas

Shipping name, hazard class and ID number must not be abbreviated unless authorized in the federal regulations. The description must also show:

- ▶ The total quantity of each hazardous product and the unit of measure (for example, pounds). Total quantity must appear before or after the basic description. The packaging type and unit of measure may be abbreviated. For example:  
10 ctns. Paint, 3, UN1263, PG II, 500 lbs.
- ▶ The letters RQ if a reportable quantity is present,
- ▶ The name of the hazardous substance if the letters RQ appear,
- ▶ For n.o.s. (not otherwise specified) and generic descriptions, the technical name of the hazardous material must be shown. For example, weed killer is a generic name. The technical name is paraquat.
- ▶ The shipper of hazardous wastes must put the word WASTE before the name of the material on the shipping

## Section 9: Hazardous Materials

paper (hazardous waste manifest). For example: Waste Acetone, 3, PGII, UN1090, PG II

- ▶ You may not use a hazard class or ID number to describe a non-hazardous material.
- ▶ Shippers must list an emergency response telephone number on the shipping paper. The number can be used by emergency workers to get information about any hazardous materials involved in a spill or fire.
- ▶ Shippers must also provide emergency response information to the motor carrier for each hazardous material being shipped. The driver must carry this information. You must be able to use this information away from the motor vehicle and it must provide information on how to safely handle incidents involving the materials shipped. It must include the shipping name of the hazardous material and information about the risks of fire and explosion and risks to health. It must also include information about initial methods for handling fires, spills and leaks of materials.

The emergency information may be included on the shipping paper or another document that includes the basic description and technical name of the hazardous material. Or, it may be in a guidance book such as the *Emergency Response Guide* (ERG). The driver must provide the emergency response information to any federal, state or local authority responding to or investigating a hazardous materials incident.

### Certification statement

When the shipper packages hazardous materials, he certifies that the package has been prepared according to federal regulations. The signed shipper's certification appears on the original shipping paper.

**Exceptions:** A shipper does not have to sign a certification statement if the shipper is a private carrier transporting its own product and the product will not be transported by another carrier. The shipper does not have to sign a certification statement if the material is transported in a cargo tank supplied by the carrier.

Unless a package is clearly unsafe, you may accept the shipper's certification concerning proper packaging. Some carriers have additional rules about transporting hazardous materials. Follow your employer's rules when accepting shipments.

### Package Markings and Labels

Shippers print required markings directly on the package, an attached label or tag. The most important package marking is the name of the hazardous material. It is the same name as the one used on the shipping paper. The shipper will put the following information on the package:

- ▶ The name and address of the shipper or consignee (the business or person to whom the shipment is being sent);

- ▶ The hazardous material's shipping name and identification number;
- ▶ The labels required.

If a reportable quantity or inhalation hazardous is being shipped, the shipper will also put RQ or INHALATION HAZARD on the package. Packages with liquid containers inside will have arrows pointing in the correct upright direction. The labels used always reflect the hazard class of the product. Labels should appear near the proper shipping name.

### Recognizing Hazardous Materials

Learn to recognize shipments of hazardous materials. To find out if the shipment includes hazardous materials, look for these clues:

- ▶ An entry with a proper shipping name, hazard class and ID number.
- ▶ A highlighted entry or one with an X or RQ in the hazardous materials column.

Look for other clues and ask:

- ▶ What business is the shipper in? Paint dealers, chemical suppliers, scientific supply houses, pest control or agricultural suppliers, explosives, munitions or fireworks dealers are all likely sources for hazardous materials.
- ▶ Do you see tanks with diamond labels or placards around the business?
- ▶ What type of package is being shipped? Cylinders and drums are often used for hazardous materials shipments.
- ▶ Is a hazard class label, proper shipping name and ID number on the package?
- ▶ Does the package have handling precautions?

### Hazardous Waste Manifest

When transporting hazardous wastes, you must sign and carry a Uniform Hazardous Waste Manifest. The name and EPA identification number of the shippers, carriers and destination must appear on the manifest.

Shippers must prepare, date and sign the manifest. Treat the manifest as a shipping paper when transporting the waste. Only give the waste shipment to a carrier with an EPA identification number or an EPA permitted treatment, storage or disposal facility.

Each carrier/driver transporting the shipment must sign the manifest. After you deliver the shipment, keep your copy of the manifest. Each copy must have all needed signatures and dates. It must include the signature of the person to whom you delivered the waste.

## Placarding

Attach the appropriate placards to the vehicle before you drive it. If you find that your vehicle is not placarded or placarded improperly, you may move it only during an emergency to protect life or property.

To decide which placards to use, you must know:

- ▶ The hazard class of the materials.
- ▶ The amount of hazardous materials shipped.
- ▶ The total weight of all hazardous materials in your vehicle.

## Placard Tables

There are two placard tables that tell you how to placard your vehicle.

### Placard Table 1—Any Amount

Table 1 materials must be placarded whenever any amount is transported.

If your vehicle contains any amount of:	Placard as:	Reference
1.1	EXPLOSIVE 1.1	172.522
1.2	EXPLOSIVE 1.2	172.522
1.3	EXPLOSIVE 1.3	172.522
2.3	POISON GAS	172.540
4.3	DANGEROUS WHEN WET	172.548
5.2 (Organic Peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE	172.552
6.1 (Inhalation hazard, zone A or B)	POISON, INHALATION HAZARD	172.555
7 (Radioactive Yellow III label only)	RADIOACTIVE	172.556

### Placard Table 2—1,001 lbs or more

Except for bulk packaging, the hazard classes in Table 2 need placards only if the total amount transported weighs 1,001 lbs or more including the package. To find out if you need a placard, add the amounts from all shipping papers for all the Table 2 products that you have on board.

Category of Material (Hazard class or division number and description as appropriate)	Placard as	Reference
1.4	EXPLOSIVES 1.4	172.523
1.5	EXPLOSIVES 1.5	172.524
1.6	EXPLOSIVES 1.6	172.525
2.1	FLAMMABLE GAS	172.532
2.2	NON-FLAMMABLE GAS	172.528
3	FLAMMABLE	172.542
Combustible liquid	COMBUSTIBLE	172.544
4.1	FLAMMABLE SOLID	172.546
4.2	SPONTANEOUSLY COMBUSTIBLE	172.547
5.1	OXIDIZER	172.550
5.2 Other than Organic Peroxide, Type B, liquid or solid, temperature controlled	ORGANIC PEROXIDE	172.552
6.1 Other than inhalation hazard, zone A or B	POISON or POISON INHALATION	172.555
6.2	(no placard required)	
8	CORROSIVE	172.558
9	CLASS 9 (See 172.504(f) (9))	172.560
ORM-D	(no placard required)	

## Section 9: Hazardous Materials

- ▶ You may use DANGEROUS placards instead of separate placards for each Table 2 hazard class if:
  - ▶ you have loaded two or more Table 2 hazard classes that weigh 1,001 lbs. or more and which require different placards, and,
  - ▶ you have not loaded 2205 lbs. or more of any Table 2 hazard class material from any one shipper. If you have loaded 2205 lbs. or more of a hazardous material from any one shipper, you must use the specific placard for this material
- ▶ If the words INHALATION HAZARD are on the shipping paper or package, you must display POISON or POISON GAS placards, as appropriate, in addition to other placards required by the product's hazard class.
- ▶ If the vehicle contains division 1.1 or 1.2 explosives and is placarded with EXPLOSIVES 1.1 or EXPLOSIVES 1.2 and you are also carrying EXPLOSIVES 1.5, OXIDIZER or DANGEROUS placard materials – you may use DANGEROUS placards instead of separate placards for each Table 2 hazard you have loaded.
- ▶ If the vehicle displays a Division 2.1 FLAMMABLE GAS or a Division 2.2 OXYGEN placard, you do not need to use a Division 2.2 NON-FLAMMABLE GAS placard.
- ▶ Placards that identify the primary hazard class of a material must show the hazard class or division number in the lower corner of the placard. Placards that identify a secondary hazard class of a material must show the hazard class or division number.
- ▶ You may display a placard for a hazardous material, even if it is not required, as long as the placard identifies the hazard of the material being transported.
- ▶ **No smoking!** When loading or unloading hazardous materials, keep fire away. Don't let people smoke nearby.
- ▶ **Never smoke around:**
  - Class 1 (explosives)
  - Division 2.1 (flammable gas)
  - Class 4 (flammable solids)
  - Class 5 (oxidizers)
  - Class 3 (flammables)
- ▶ Brace containers so they will not fall, slide or bounce during transit. Be careful when loading containers with valves or other fittings.
- ▶ After loading, do not open any package during your trip. Never transfer hazardous materials from one package to another during the trip. You may empty a cargo tank, but do not empty any other package while it is on the vehicle.
- ▶ **Cargo heater rules:** There are special cargo heater regulations for loading:
  - Class 1 (explosives)
  - Class 3 (flammable liquids)
  - Division 2.1 (flammable gas)

These rules are found in the Code of Federal Regulations.

The regulations generally forbid use of cargo heaters, including automatic cargo heating/refrigeration units. Unless you have read all the related regulations, do not load these products in a cargo space that has a heater.

- ▶ **Use closed cargo space:** You cannot have overhang or tailgate loads of these materials:
  - Class 1 (explosives)
  - Class 4 (flammable solids)
  - Class 5 (oxidizers)

You must load these hazardous materials in a closed cargo space unless all packages are:

- ▶ fire and water resistant, or
- ▶ covered with a fire and water-resistant tarp.

### Precautions for Specific Hazards

#### Class 1 (explosive) materials

- ▶ Turn off your engine before loading or unloading explosives. Then check the cargo space. You must:
  - ▶ Disable cargo heaters. Disconnect heater power sources and drain heater fuel tanks.
  - ▶ Make sure there are no sharp points that might damage cargo. Look for bolts, screws, nails, broken side panels and broken floor boards.
  - ▶ Use a floor lining with Division 1.1, 1.2 or 1.3 explosives. The floors must be tight and the liner

## Loading and Unloading Hazardous Materials

### General Loading Requirements

- ▶ Do everything you can to protect containers of hazardous materials. Don't use tools which might damage containers or packaging during loading. Don't use hooks.
- ▶ Before loading or unloading, set the parking brake. Make sure the vehicle will not move.
- ▶ Many products become more hazardous when exposed to heat. Load hazardous materials away from heat sources.
- ▶ Watch for signs of leaking or damaged containers. Leaks spell trouble! Do not transport leaking packages. You, your truck and others could be in danger.
- ▶ Brace packages containing Class 1 (explosives), Class 3 (flammable liquids), Class 4 (flammable solids), Class 5 (oxidizers), Class 8 (corrosives), Class 2 (gases) and Division 6.1 (poisons) to prevent movement during transit.

must be either non-metallic material or non-ferrous metal (metal that does not contain iron).

- ▶ Use extra care to protect explosives. Never use hooks or other metal tools. Never drop, throw or roll packages. Protect explosive packages from other cargo that might cause damage.
- ▶ Do not transfer a Division 1.1, 1.2 or 1.3 explosive from one vehicle to another on a public roadway except in an emergency. If you must make an emergency transfer, set out red warning reflectors, flags or electric lanterns. You must warn others on the road.
- ▶ Never transport damaged packages of explosives. Do not take a package that shows dampness or an oily stain.
- ▶ Do not transport Division 1.1 or 1.2 explosives in vehicle combinations or triples if:
  - ▶ A marked or placarded cargo tank is in the combination, or
  - ▶ The other vehicle in the combination contains:
    - ▶ Division 1.1 A (initiating) explosives;
    - ▶ Packages of Class 7 (radioactive) materials labeled "Yellow III"
    - ▶ Division 2.3 (poisonous gas) or Division 6.1 (poisonous) materials;
    - ▶ Hazardous materials in a portable tank, a DOT Spec 106A or 110A tank.

### Class 8 (corrosive) materials

- ▶ If loading by hand, load breakable containers of corrosive liquid one by one. Keep them right side up. Do not drop or roll the containers. Load them on an even floor surface. Stack carboys only if the lower tiers can bear the weight of the upper tiers safely. (Carboys are portable tanks that may be metal or plastic and are placed in a special cage.)
- ▶ Do not load nitric acid above any other product or stack more than 2 tiers high.
- ▶ Load charged storage batteries so their liquid won't spill. Keep them right side up. Make sure other cargo won't fall against or short circuit them.
- ▶ Never load corrosive liquids next to or above:
  - ▶ Division 1.4
  - ▶ Class 4 (flammable solids)
  - ▶ Class 5 (oxidizers)
  - ▶ Division 2.3, Zone B gases

- ▶ Never load corrosive liquids with:
  - ▶ Division 1.1 or 1.2
  - ▶ Division 1.3
  - ▶ Division 1.5 (blasting agents)
  - ▶ Division 2.3, Zone A, gases
  - ▶ Division 4.2 (spontaneously combustible materials)
  - ▶ Division 6.1, PGI, Zone A (poison liquids)

### Class 2 (compressed gasses) including cryogenic

**liquids.** Cryogenic liquids are liquids carried at very cold temperatures. See 49CFR177 for additional details.

- ▶ If your vehicle doesn't have racks to hold cylinders, the cargo space floor must be flat. The cylinders must be:
  - ▶ Held upright or braced laying down flat, or
  - ▶ In racks attached to the vehicle, or
  - ▶ In boxes that will keep them from turning over.

### Division 2.3 (poisonous gas) or Division 6.1 (poisonous) materials

- ▶ Never transport these materials in containers with interconnections
- ▶ Never load a package labeled POISON or POISON INHALATION HAZARD in the driver's cab, sleeper or with food material for human or animal consumption.

### Class 7 (radioactive) materials

Some packages of Class 7 (radioactive) materials show a number called the transport index. The shipper labels these packages Radioactive II or Radioactive III and prints the package's transport index on the label.

Radiation surrounds each package and passes through all nearby packages. As a result, the number of packages you can load together is controlled. Their closeness to people, animals and exposed film is also controlled.

## Section 9: Hazardous Materials

The transport index (shown below) shows how close you can load Class 7 (radioactive) materials to people, animals or film. For example, you can't leave a package with a transport index of 1.1 within 2 feet of people or cargo space walls during transit. The total transport index of all packages in a single vehicle cannot exceed 50. Single vehicles include automobiles, vans, trucks, tractors and semi-trailers.

### Radioactive Transport Index

*(You will not be tested on the numbers in this table.)*

Do not leave radioactive yellow-II or yellow-III labeled packages near people, animals or film longer than shown in this table.

Total Transport Index	Minimum Distance in Feet to Nearest Undeveloped Film					To People or Cargo Compartment Partitions
	0-2 Hours	2-4 Hours	4-8 Hours	8-12 Hours	Over 12 Hours	
None	0	0	0	0	0	0
0.1 to 1.0	1	2	3	4	5	1
1.1 to 5.0	3	4	6	8	11	2
5.1 to 10.0	4	6	9	11	15	3
10.1 to 20.0	5	8	12	16	22	4
20.1 to 30.0	7	10	15	20	29	5
30.1 to 40.0	8	11	17	22	33	6
40.1 to 50.0	9	12	19	24	36	7

Federal regulations require that some products be loaded separately. You cannot load them together in the same cargo space. The table below lists some examples. The Segregation and Separation chart in the federal regulations names other materials that you must keep apart.

Do Not Load	In the Same Vehicle with ...
Division 6.1 or 2.3 POISON or POISON INHALATION HAZARD labeled material	Animal or human food unless the poison package is overpacked in an approved way. Foodstuffs are anything you swallow. However, mouthwash, toothpaste, and skin creams are not foodstuff.
Division 2.3 (poisonous) gas Zone A or Division 6.1 (poison) liquids, PG I Zone A	Division 5.1 (oxidizers), Class 3 (flammable liquids), Class 8 (corrosive liquids), Division 5.2 (organic peroxides), Division 1.1, 1.2, 1.2 (Class A or B explosives), Division 1.5 (blasting agents), Division 2.1 (flammable gasses), Division 4.1 (flammable solids), Division 4.2 (spontaneously combustible), Division 4.3 (dangerous when wet). See 499CRF177 for additional details.
Charged storage batteries	Division 1.1 Class A (explosives)
Class 1 (detonating primers)	Any other explosives unless in authorized containers or packaging
Division 6.1 (cyanides or cyanide mixtures)	Acids, corrosive materials, or other acidic materials which could release hydrocyanic acid from cyanides. For example: Cyanides, Inorganic, n.o.s. Silver Cyanide Sodium Cyanide
Nitric acid (Class 8)	Other materials unless the nitric acid is not loaded above any other material and not more than two tiers high.

## Bulk Packaging — Marking, Loading and Unloading

### Bulk Packaging

**Bulk packaging** is any packaging in which hazardous materials are loaded with no intermediate form of containment and which:

- ▶ As a receptacle for liquid holds 450 liters or 119 gallons or more; or
- ▶ As a receptacle for solids holds 400 kilograms/882 pounds or 450 liters/119 gallons or more; or
- ▶ As a receptacle for gas has a water capacity greater than 454 kilograms/1000 pounds (refer to the definition in 49 CFR 173, 115).

Bulk packaging includes transport vehicles and freight containers.

**A cargo tank** is a bulk packaging which is:

- ▶ a tank intended primarily for carrying liquids or gases and includes appurtenances, reinforcements, fittings and closures. For “tank” see 49 CFR 178.337-1 or 178-345-1 (c);
- ▶ permanently attached to or forms a part of a motor vehicle. If it is not permanently attached to a motor vehicle, it is loaded or unloaded without being removed from the motor vehicle; and
- ▶ not made according to specifications for cylinders, portable tanks, tank cars, or multi-unit tank car tanks, or intermediate bulk containers.

**Portable tanks** are bulk containers which are not permanently attached to a vehicle. The product is loaded or unloaded while the portable tanks are off the vehicle.

Many types of cargo tanks are in use. The most common cargo tanks are MC306/406 for flammable liquids and MC331 for gases. Other liquid hazardous materials must be transported in other types of specification tanks such as MC307/407 or MC312/412.

### Markings

- ▶ You must display the ID number of the hazardous materials in portable tanks, cargo tanks and intermediate bulk packaging containers. ID numbers are shown in column 4 of the Hazardous Materials Table. Federal regulations require black 100 mm (3.9 inch) numbers on orange panels, placards or a white diamond shaped background if placards are not required.
- ▶ Specification cargo tanks must show retest date markings.

- ▶ In addition, portable tanks:
  - ▶ Must show the lessee or owner’s name.
  - ▶ Must display the shipping name of the contents on two opposite sides.
  - ▶ The letters of the shipping name must be at least 2 inches tall on portable tanks with capacities of more than 1,000 gallons and 1 inch tall on portable tanks with capacities of less than 1,000 gallons.
  - ▶ The ID number must appear on each side and each end of a portable tank or other bulk packaging that holds 1,000 gallons or more.
  - ▶ The ID number must appear on two opposite sides if the portable tank holds less than 1,000 gallons.
  - ▶ The ID numbers must be visible when the portable tank is on the motor vehicle. If they are not visible, you must display the ID number on both sides and on both ends of the motor vehicle.
  - ▶ If the identification numbers cannot be seen from outside the vehicle, additional numbers must be affixed to the exterior-front, rear and both sides.

### Tank Loading and Unloading

The person in charge of loading and unloading a cargo tank must make sure a qualified person is always watching. The person watching must:

- ▶ Be alert;
- ▶ Have a clear view of the cargo tank;
- ▶ Be within 25 feet of the tank (177.834)(i)(3));
- ▶ Know the hazards of the materials involved;
- ▶ Know procedures to follow in an emergency; and,
- ▶ Be authorized and able to move the cargo tank.

Close all manholes and valves before moving a tank of hazardous materials, no matter how small the amount in the tank or how short the distance. Manholes and valves must be closed to prevent leaks.

### Flammable Liquids

- ▶ Turn off your engine before loading or unloading any flammable liquids.
- ▶ Run the engine only if you need it to operate a pump.
- ▶ Ground a cargo tank correctly before filling through an open filling hole.
- ▶ Ground the tank before opening the filling hole and maintain the ground until after you close the filling hole.

## Section 9: Hazardous Materials

### Compressed Gas

- ▶ Keep liquid discharge valves on a compressed gas tank closed except when loading and unloading.
- ▶ Run the engine only if you need it to operate a pump.
- ▶ If you run your engine, turn it off after transferring the product and before you unhook the hose.
- ▶ Unhook all loading/unloading connections before coupling, uncoupling or moving a chlorine tank.
- ▶ Always chock trailers and semi-trailers to prevent motion when uncoupled from the tractor or power unit.

### Hazardous Materials Parking and Driving Rules

#### Parking with Division 1.1, 1.2 or 1.3 Explosives

- ▶ Never park with Division 1.1, 1.2 or 1.3 explosives within 5 feet of the traveled part of the road.
- ▶ Do not park within 300 feet of:
  - ▶ a bridge, tunnel or building
  - ▶ a place where people gather, or
  - ▶ an open fire.

If you must park, for example to refuel, be as quick as possible.

- ▶ Do not park on private property unless the owner is aware of the danger. Someone must always watch the parked vehicle. You may let someone else watch the vehicle only if it is:
  - ▶ on the shipper's property, or
  - ▶ on the carrier's property, or
  - ▶ on the consignee's property.

#### Safe Havens

You may leave your vehicle unattended in a safe haven. A safe haven is an approved place for parking unattended vehicles loaded with explosives. Local or state and federal authorities identify areas for safe havens.

#### Parking a Placarded Vehicle Not Carrying Division 1.1, 1.2 or 1.3 Explosives

- ▶ You may park a placarded vehicle (not carrying explosives) within 5 feet of the traveled part of the road only if your work requires it. Move the vehicle as soon as possible. Someone must always watch the vehicle when parked on a public road or shoulder.
- ▶ Do not uncouple a trailer with hazardous materials and leave it on a public street.
- ▶ Do not park within 300 feet of an open fire.

### Attending Parked Vehicles

- ▶ The person watching a placarded vehicle must:
  - ▶ Be in the vehicle and awake. He cannot be in the sleeper berth.
  - ▶ Or, the person must be within 100 feet of the vehicle and have it within clear view.
  - ▶ Be aware of the hazards of the materials being transported.
  - ▶ Know what to do in an emergency, and
  - ▶ Be able to move the vehicle if needed.

### No Flares!

- ▶ If you need to use warning devices, use reflective triangles or red electric lights.
- ▶ NEVER use burning signals, such as flares or fuses, around a:
  - ▶ Tank used for Class 3 (flammable liquids) or Division 2.1 (flammable gas) whether loaded or empty.
  - ▶ Vehicle loaded with Division 1.1, 1.2 or 1.3 explosives.

### No Smoking!

- ▶ Do not smoke while driving or within 25 feet of a placarded cargo tank used for Class 3 (flammable liquids) or Division 2.1 (gases).
- ▶ Do not smoke or carry a lighted cigarette, cigar or pipe while driving or within 25 feet of any vehicle which contains:
  - Class 1 Explosives
  - Class 2.1 Flammable Materials
  - Class 3 Flammable Liquids
  - Class 4.1 and 4.2 Flammable Materials
  - Class 5 Oxidizers

### Refuel with the Engine Off

- ▶ Turn off your engine before fueling a motor vehicle carrying hazardous materials.
- ▶ Someone must always be at the nozzle controlling the fuel flow.

### Carry a 10 B:C Fire Extinguisher

- ▶ The tractor or power unit on placarded vehicles must have a fire extinguisher with a UL rating of 10 B:C or more.
- ▶ Make sure the extinguisher is fully charged.
- ▶ Know how to operate it *before* you need it!

## Equipment for Chlorine

- ▶ A driver transporting chlorine in cargo tanks must have an approved gas mask in the vehicle.
- ▶ The driver must also carry an emergency kit for controlling leaks in the dome cover plate fittings on the cargo tank.

## Permit and Route Restrictions

- ▶ Most states and some localities require permits to transport hazardous materials and wastes. Rules about permits can change. Make sure you have all the needed permits before you start.
- ▶ Many states and localities have either route restrictions or designated routes for the transportation of hazardous materials. These restrictions and designations can change often.
- ▶ If you work for a carrier, ask your dispatcher about route restrictions or permits.
- ▶ If you are an independent trucker and are planning a new route, check with agencies where you plan to travel. Some localities prohibit transportation of hazardous materials through tunnels, over bridges or other roadways. Check before you start.
- ▶ Whenever you drive a placarded vehicle, avoid heavily populated areas, crowds, tunnels, narrow streets and alleys. Take other routes, even if they are more inconvenient.
- ▶ Never drive a placarded vehicle near open fires unless you can safely pass without stopping.
- ▶ If you are carrying Division 1.1, 1.2 or 1.3 explosives:
  - ▶ You must have a written route plan and follow that plan.
  - ▶ Keep a copy of the plan with you while transporting the explosives.
  - ▶ Carriers prepare the route plan ahead of time and give the driver a copy.
  - ▶ You may plan the route yourself if you pick up the explosives somewhere other than at your employer's terminal. If you plan the route, write it out in advance and keep it with you while transporting the explosives.
  - ▶ Deliver shipments of explosives only to authorized persons or leave them in locked rooms designed for explosives storage.
- ▶ A carrier must choose the safest route to transport placarded radioactive materials. After choosing the route, the carrier must tell the driver about the radioactive materials and tell him the route plan.

## Where to Keep Shipping Papers and Emergency Response Information

- ▶ Do not accept a hazardous materials shipment without a properly prepared shipping paper.
- ▶ A shipping paper for hazardous materials must always be easily recognized. Other people must be able to find it quickly after an accident.
  - ▶ Put hazardous materials shipping papers on top of your stack of shipping papers or tab them so that they stand out from other papers.
  - ▶ When you are driving, keep shipping papers within your reach (with your seat belt on) or in a pouch on the driver's door. They must be seen easily by someone entering the cab.
  - ▶ When you are not behind the wheel, leave the shipping papers in the driver's pouch or on the driver's seat.
  - ▶ Emergency response information must be kept with the shipping paper.

## Papers for Division 1.1, 1.2 or 1.3 Explosives

- ▶ A carrier must give each driver transporting Division 1.1, 1.2 or 1.3 explosives a copy of Federal Motor Carrier Safety Regulations (FMCSR), Part 397.
- ▶ The carrier must also give the driver written instructions about what to do if the driver is delayed or in a crash. These instructions must include:
  - ▶ Names and telephone numbers of people to contact (including carrier agents or shippers).
  - ▶ Information about the explosives being transported.
  - ▶ Information about what to do in emergencies such as fires, crashes or leaks.
- ▶ The driver must sign a receipt for these documents.
- ▶ When you are driving, you must have and be familiar with the:
  - ▶ shipping papers
  - ▶ written emergency instructions
  - ▶ written route plan
  - ▶ a copy of FMCSR, part 397

## Section 9: Hazardous Materials

### Check Your Tires at the Beginning of Each Trip and Each Time the Vehicle is Parked.

- ▶ Make sure your tires are properly inflated before you begin your trip.
- ▶ Check placarded vehicles with dual tires at the start of each trip and when you park.
- ▶ Use a tire pressure gauge to check the pressure. This is the only acceptable way to check pressure.
- ▶ Do not drive with a tire that is leaking or flat except to the nearest safe place to fix it.
- ▶ Remove any overheated tire. Place it a safe distance from your vehicle. Don't drive until you correct the cause of overheating.
- ▶ Follow the rules about parking and attending placarded vehicles. They apply even when you are checking, repairing or replacing tires.

### Stop Before Railroad Crossings (392.10)

- ▶ Stop before a railroad crossing if your vehicle:
  - ▶ is placarded, or
  - ▶ carries any amount of chlorine, or
  - ▶ is a cargo tank—empty or loaded—used for hazardous materials.
- ▶ You must stop 15 to 50 feet before the nearest rail.
- ▶ Proceed only when you are sure that no train is coming.
- ▶ Don't shift gears while crossing the tracks.

## Hazardous Materials Emergencies

In a hazardous materials emergency, always remember:

- ▶ No smoking.
- ▶ Warn others.
- ▶ Keep people away.
- ▶ Avoid contact or inhaling.

### Emergency Response Guidebook (ERG)

- ▶ The Department of Transportation produces a guidebook for firefighters, police, drivers and others about how to protect themselves and the public from hazardous materials.
- ▶ This book is indexed by proper shipping names and hazardous materials identification numbers.
- ▶ Emergency workers look for this information on the shipping paper.

- ▶ The proper shipping name, ID number, label and placards **MUST** be correct on your hazardous materials shipment. Your life and the lives of others depend on it.

### Crashes/Incidents

- ▶ As a professional driver, your job at the scene of crash is to:
  - ▶ Keep people away from the scene.
  - ▶ Limit the spread of material, *only if you can do so safely*.
  - ▶ Tell emergency workers about the danger of the hazardous materials.
  - ▶ Provide emergency workers with shipping papers and emergency response information.
  - ▶ Flammable liquids may be transferred from one tanker to another on a public highway in an emergency situation.
- ▶ Follow this checklist:
  - ▶ Keep people far away and upwind. When facing the vehicle, the wind should be blowing on your back, not in your face.
  - ▶ Warn others of the danger.
  - ▶ Send for help.
  - ▶ Follow your employer's instructions.

### Fires

- ▶ You might have to control minor truck fires on the road.
- ▶ However, *unless you have the training and equipment, don't fight hazardous materials fires*. Hazardous materials fires require special training and protective gear.
- ▶ When you discover a fire, send for help.
- ▶ You may use the fire extinguisher to keep minor truck fires from spreading to the cargo area before firefighters arrive.
- ▶ Feel trailer doors to see if they are hot. If they feel hot, or if smoke is seeping out around the doors, you may have a cargo fire. **DO NOT** open the doors. Opening the doors lets in air and makes the fire flare up. Without air, many fires smolder and cause less damage.
- ▶ If your cargo is already on fire, do not try to fight the fire. It isn't safe.
- ▶ Keep the shipping papers with you and give them to emergency workers when they arrive.
- ▶ Warn other people of the danger. Keep them away.

## Leaks/Spills

- ▶ If you discover a cargo leak, identify the hazardous materials that are leaking. Use the shipping papers, labels or package location to identify the materials.
- ▶ DO NOT TOUCH any leaking material. Many people injure themselves by touching hazardous materials.
- ▶ Do not try to identify the material or find the source of a leak by smell. Toxic gases can destroy your sense of smell. Even if they don't smell, they can injure or kill you.
- ▶ Never eat, drink or smoke around a leak or spill.
- ▶ If hazardous materials are spilling from your vehicle, do not move it except for safety reasons. You may move it off the road and away from places where people gather.
- ▶ Move your vehicle only if you can move it without danger to yourself or others.
- ▶ Never continue driving with hazardous materials leaking from your vehicle. Remember, the carrier pays for the cleanup of contaminated parking lots, roadways and drainage ditches. The costs are enormous. Don't leave a trail of contamination.
- ▶ If hazardous materials are spilling from your vehicle:
  - ▶ Park it.
  - ▶ Secure the area.
  - ▶ Stay there.
  - ▶ Send someone else for help.
- ▶ When sending another person for help, give that person:
  - ▶ A description of the emergency.
  - ▶ Your exact location and direction of travel.
  - ▶ Your name, the carrier's name and the name of the community or city where your terminal is located. Terminal refers to where you picked up the load.
  - ▶ The proper shipping name, hazard class and ID number of the hazardous materials, if you know them. Remember, this is required information and will be found on the shipping paper.

This is a lot for someone to remember. Write it down for the person that you send for help. The emergency response team must know this information to handle the emergency.

- ▶ Never try to repack leaking containers.
- ▶ Don't try to repair leaks unless you have the training and equipment.

## Responses to Specific Hazards

In response to a specific hazard, refer to:

- ▶ the hazardous materials data sheet that accompanies the shipping paper or
- ▶ the emergency response action as given by the shipper or
- ▶ the Emergency Response Guide.

**Definition: The National Response Center helps coordinate emergency responses to chemical hazards. It is a resource for police and firefighters. It maintains a 24-hour toll-free line.**

**National Response Center  
800-424-8802 or 202-267-2675**

## Required Notification

You or your employer must phone the National Response Center when any of the following occur as a direct result of a hazardous materials incident:

- ▶ A person is killed.
- ▶ An injured person requires hospitalization.
- ▶ Estimated property damage exceeds \$50,000.
- ▶ The general public is evacuated for one hour or more.
- ▶ One or more major transportation arteries (including highway, airways, railways or waterways) or facilities are closed for one hour or more.
- ▶ Fire, breakage, spillage or suspected radioactive contamination occurs.
- ▶ Fire, breakage, spillage or suspected contamination occurs and involves a shipment of infectious substance other than a diagnostic specimen or regulated medical waste.
- ▶ Release of a marine pollutant in a quantity exceeding 450L (119 gallons) for a liquid and 400kg (882 pounds) for a solid.
- ▶ Unintentional release of a hazardous material or the discharge of any quantity of hazardous waste.
- ▶ Specification cargo tank with capacity of 1000 gallons or greater which suffers structural damage to the lading retention system or damage that requires repair to the lading retention system.
- ▶ An undeclared hazardous material is discovered.

## Section 9: Hazardous Materials

When you call the National Response Center, be ready to give:

- ▶ Your name.
- ▶ The name and address of the carrier for whom you work.
- ▶ The carrier's phone number.
- ▶ Date, time and location of the incident.
- ▶ A description of injuries.
- ▶ Classification, name and quantity of hazardous materials involved, if available. Remember, this is required information and you will find it on the shipping paper.
- ▶ Type of incident, such as leak, spill or fire. Description of how hazardous materials are involved.
- ▶ Whether a continuing danger to life exists at the scene.
- ▶ If a reportable quantity of a hazardous substance was involved, you should be able to give the name of the shipper and the quantity of the hazardous substance discharged.
- ▶ Be prepared to give your employer the required information as well.

Carriers must also make a detailed written report to the National Response Center within 30 days of an incident.

The Chemical Transportation Emergency Center (CHEMTREC) also has a 24-hour toll-free line. CHEMTREC provides emergency personnel with technical information about the properties of hazardous materials. CHEMTREC offers the service for a fee, not a free service.

**CHEMTREC**  
**800-424-9300**

## USA Patriot Act Requirements for Hazardous Materials Endorsements

Federal law requires individuals applying for or renewing a Commercial Driver's License (CDL) with a hazardous materials endorsement to be fingerprinted for a background check. A holder of a valid Transportation Workers Identification Credential (TWIC) card, who has already undergone a Transportation Security Administration (TSA) security threat assessment, may be exempt from an additional background check if the TWIC is submitted with the hazardous material endorsement application.

You will not receive your new or renewed license at the time of application. Allow at least 45 days for the application to be processed. DMV will notify you when your application has been approved or denied by the U.S. Transportation Security Administration (TSA). When approved, you may return to DMV to be photographed and pick up your CDL, provided you have successfully completed the HAZMAT test.

The background check is valid for up to five years.

Hazardous materials endorsement applicants must visit one of the following DMV locations to be fingerprinted:

- ▶ **Abingdon**  
25552 Lee Highway
- ▶ **Charlottesville**  
2055 Abbey Road
- ▶ **Emporia**  
103 Commonwealth Boulevard
- ▶ **Farmville**  
300 North Virginia Street
- ▶ **Fredericksburg**  
5700 Southpoint Boulevard
- ▶ **Hampton**  
8109 Roanoke Avenue

- ▶ **Harrisonburg**  
3281 Peoples Drive
- ▶ **Manassas**  
9800 Godwin Drive
- ▶ **Martinsville**  
310 Starling Avenue
- ▶ **Norton**  
1729 Park Avenue S.W.
- ▶ **Onancock**  
20 North Street
- ▶ **Portsmouth**  
6400 Bickford Parkway
- ▶ **Richmond**  
2300 West Broad Street
- ▶ **Roanoke**  
5220 Valleypark Drive
- ▶ **South Boston**  
2039 Hamilton Boulevard
- ▶ **Staunton**  
17 First Street
- ▶ **Tyson's Corner**  
1968 Gallows Road
- ▶ **Virginia Beach/Hilltop**  
1712 Donna Drive
- ▶ **Winchester**  
4050 Valley Pike
- ▶ **Wytheville**  
800 East Main Street  
Suite 100

Fingerprinting is also available at *DMV 2 Go* mobile offices. For dates and locations, view the *DMV 2 Go* calendar at [www.dmvNOW.com/DMV2Go](http://www.dmvNOW.com/DMV2Go).

## Section 9: Hazardous Materials

### Acceptable Documents for Proof of U.S. Citizenship/Immigration Status for Hazardous Materials Endorsement

To be eligible for a hazardous materials endorsement, applicants are required to provide documents to show proof of U.S. citizenship or immigration status, as specified in the Federal Motor Carrier Safety Administration's Code of Federal Regulations, 49 CFR 383.71. Applicants must present either:

- ▶ one document from list A, or
- ▶ one document from list B and one document from list C

One document needed

#### List A

- ▶ Unexpired U.S. Passport (book or card)
- ▶ Unexpired Merchant Mariner Document
- ▶ Unexpired Free and Secure Trade Card
- ▶ Unexpired NEXUS Card
- ▶ Unexpired Secure Electronic Network for Travelers Rapid Inspection Card
- ▶ Unexpired United States Enhanced Driver's License
- ▶ Unexpired Enhanced Tribal Card
- ▶ Unexpired Permanent Resident Card (I-551)
- ▶ Unexpired Foreign Passport **AND** immigrant visa with I-551 annotation of "Upon Endorsement Serves as Temporary I-551 Evidencing Permanent Residence of 1 Year"
- ▶ Unexpired Re-entry Permit (I-327)
- ▶ Unexpired Department of Homeland Security/Transportation Security Administration Transportation Worker Identification Credential with an Expiration date **For Comparability Only**

**OR**

Two documents needed – one from list B and one from list C:

#### List B

- ▶ U.S. Certificate of Citizenship (N-560 or 561)
- ▶ U.S. Certificate of Naturalization (N-550 or 570)
- ▶ U. S. Citizen Identification Card (I-179 or I-197)
- ▶ Expired U.S. passport (within 12 months of expiration)
- ▶ Unexpired driver's license issued by a State or outlying possession of the United States
- ▶ Unexpired ID card issued by a State or outlying possession of the United States. Must include a State or State agency seal or logo (such as a State University ID)
- ▶ U.S. military ID card or U.S. retired military ID
- ▶ U.S. military dependent's card
- ▶ Unexpired Department of Homeland Security/Transportation Security Administration Transportation Worker Identification Credential
- ▶ Unexpired Merchant Mariner Credential

#### List C

- ▶ Consular Report of Birth Abroad (FS-240)
- ▶ Certification of Report of Birth Abroad (DS-1350 or FS-545)
- ▶ Original or certified copy of birth certificate issued by a State, county, municipal authority, or outlying possession of the United States bearing an official seal
- ▶ Voter's registration card
- ▶ Native American tribal document (with photo)
- ▶ U.S. social security card
- ▶ U.S. military discharge papers (DD-214)
- ▶ Department of Transportation medical card
- ▶ U.S. civil marriage certificate
- ▶ Unexpired Merchant Mariner License bearing an official raised seal, or a certified copy

For more information visit [www.dmvNOW.com](http://www.dmvNOW.com) or call (804) 497-7100.



Department of Motor Vehicles  
P.O. Box 27412  
Richmond, Virginia 23269-0001



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