

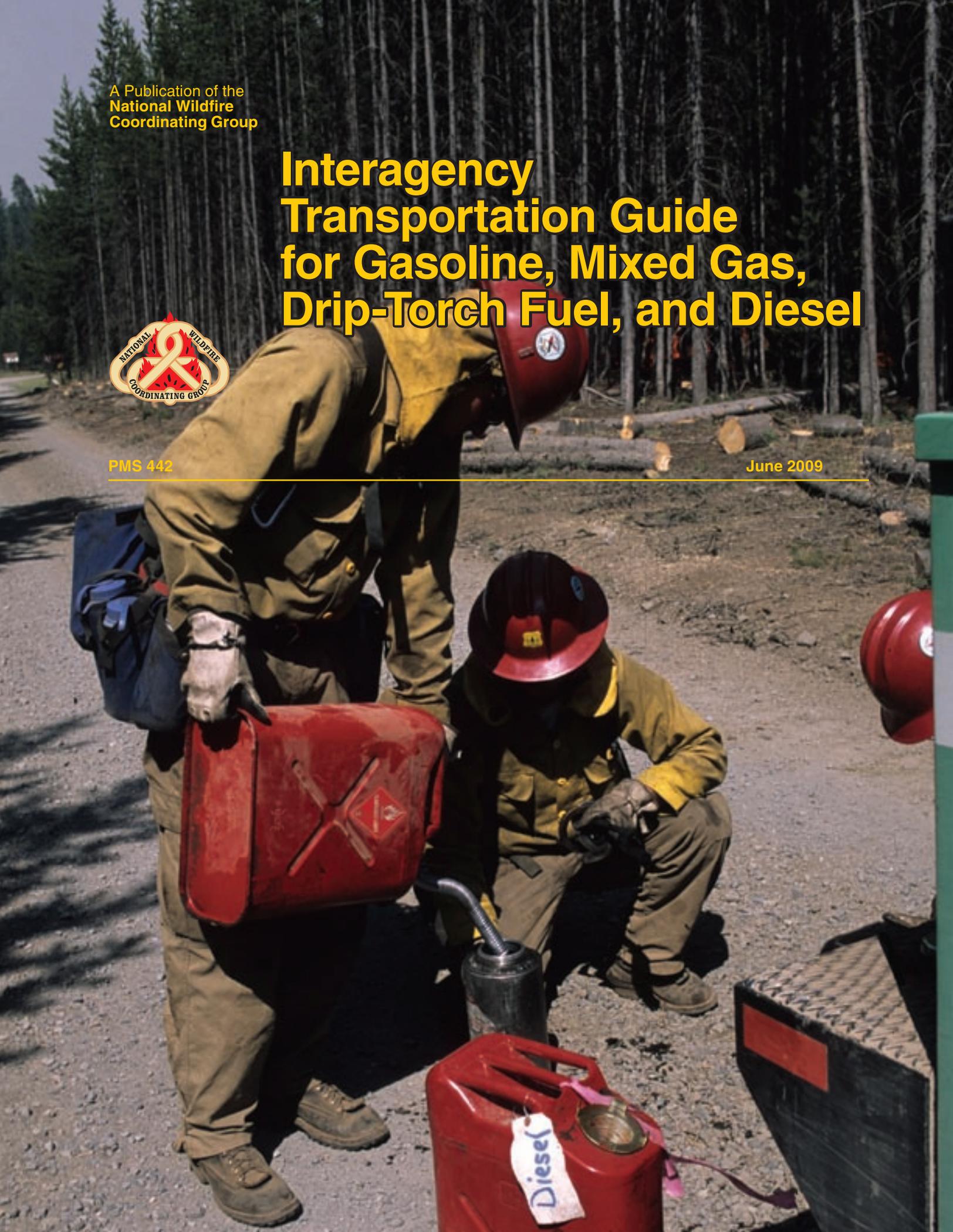
A Publication of the
National Wildfire
Coordinating Group

Interagency Transportation Guide for Gasoline, Mixed Gas, Drip-Torch Fuel, and Diesel



PMS 442

June 2009



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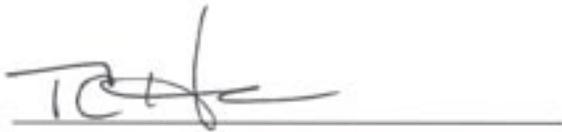
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Preface

Part One

This document establishes interagency guidance for the ground transportation of gasoline, mixed gas, drip-torch fuel, and diesel in Government vehicles driven by Government employees. This guide is based as

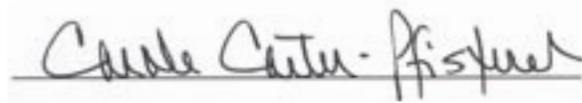
closely as practical on the U.S. Department of Transportation (DOT) and U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulations.



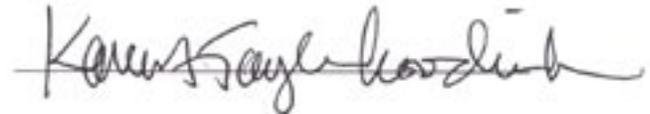
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Part One

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Firefighter using a drip torch.



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L and management agencies use many liquid fuels, such as gasoline, mixed gas, and drip-torch fuel, that are classified as flammable liquids. Special requirements apply for containers and tanks used to transport flammable liquids, and for licensing and training drivers.

Diesel is classified as a combustible liquid. In some cases, the requirements for transporting diesel may be less stringent than for transporting flammable liquids.

Gasoline, mixed gas, drip-torch fuel, and diesel must be transported in the approved fuel containers or tanks listed in this guide. Most of the listed containers meet U.S. Department of Transportation (DOT) specifications for transporting flammable liquids. DOT-specification containers are required, because they meet rigorous testing standards established by the United Nations (UN) before they are accepted for use. DOT-specification containers can be identified by their markings. For example, an approved closed-head steel drum will be marked UN 1A1 (figure 1), and an approved steel jerrican will be marked UN 3A1. **If a drum or jerrican does not have the proper specification marking, do not use it!**



Figure 1—An example of a UN 1A1 specification marking.

Regulations requiring retailers to sell only spillproof fuel containers have been adopted by States (such as California) with air pollution problems. Individuals purchasing new fuel containers in these States must buy spillproof containers.

Spillproof containers, commonly referred to as *CARB* (California Air Resource Board) compliant, are designed to reduce air pollution caused by fuel that evaporates from overfilled containers or from containers that are left open.

When this guide was prepared, regulations did not require existing fuel containers to be replaced. Existing nonspillproof fuel containers approved by this guide may continue to be used until they are no longer serviceable.

Safety cans meeting OSHA requirements are exempt from most States' spillproof container regulations. Pennsylvania does not exempt safety cans. **Check with your State environmental regulatory agency for details and the applicability of spillproof container regulations.** At the time this guide was prepared, States with these regulations included: California, Virginia, Maryland, Massachusetts, Pennsylvania, Connecticut, New Jersey, New York, and Maine. Other States, including Texas and Illinois, are considering adopting these regulations.

The tanks listed for transporting gasoline, mixed gas, and drip-torch fuel also meet DOT specifications. Most tanks available at ranch supply stores *do not meet* the requirements for transporting flammable liquid and must not be used to transport gasoline, mixed gas, or drip-torch fuel, even though they may be used to transport diesel.

A few types of nonspecification containers are allowed, such as aluminum (Sigg) fuel bottles, plastic (Nalgene) fuel bottles, and some drip torches. In addition, plastic two-compartment fuel and oil containers (often called Dolmars) are also allowed, providing they meet Underwriters Laboratories (UL) specifications. Fuel also may be carried in the container it was sold in, such as metal cans of Coleman stove fuel. Manufacturers' original containers must not be reused to transport other flammable liquids.

APPROVED FUEL CONTAINERS For Gasoline, Mixed Gas, and Drip-Torch Fuel

Container type	Specification	Color requirement	Label or placard	Marking (Depends on fuel type)	Number of containers that may be transported
Safety transport cans Page 28	UN 3A1 or UN 1A1	Red with yellow markings	<i>FLAMMABLE LIQUID</i> label	Required	Depends on driver licensing and training
Metal jerricans ¹ Page 28	UN 3A1	Red with yellow markings	<i>FLAMMABLE LIQUID</i> label	Required	Depends on driver licensing and training
Plastic jerricans ² Page 28	UN 3H1	None	<i>FLAMMABLE LIQUID</i> label	Required	Depends on driver licensing and training
Safety cans Page 35	UL or FM	Red with yellow markings	<i>FLAMMABLE LIQUID</i> label	Required	No container larger than 8 gallons; total weight of all hazmat being transported is no more than 440 pounds
Dolmars Page 37	UL	Red	None	None	No container larger than 8 gallons; total weight of all hazmat being transported is no more than 440 pounds
Consumer plastic containers ² Page 39	UL or FM	Red	None	None	No container larger than 8 gallons; total weight of all hazmat being transported is no more than 440 pounds
Plastic fuel bottles ² Page 41	None	Red	None	None	40 fuel bottles; no other containers larger than 8 gallons; total weight of all hazmat being transported is no more than 440 pounds
Aluminum fuel bottles Page 41	NSN 7240-01-351-2133	Red	None	None	40 fuel bottles; no other containers larger than 8 gallons; total weight of all hazmat being transported is no more than 440 pounds
Pump fuel tanks Page 33	None	None	<i>FLAMMABLE LIQUID</i> label on box, rack, or crate	On box, rack, or crate	No more than needed to operate the pump

Continued 

APPROVED FUEL CONTAINERS
For Gasoline, Mixed Gas, and Drip-Torch Fuel (continued)

Container type	Specification	Color requirement	Label or placard	Marking (Depends on fuel type)	Number of containers that may be transported
Drip torches (Nonspec) ³ Page 25	None	None	<i>FLAMMABLE</i> <i>LIQUID</i> label or <i>DRIP TORCH</i> <i>FUEL</i> tag	On box, rack, or crate	Transportation of full nonspec drip torches not recommended
Drip torches (DOT Spec) Page 25	FS 5100-614 UN 3B1 UN 1B1 UN 3A1 Others	None	<i>FLAMMABLE</i> <i>LIQUID</i> label or <i>DRIP TORCH</i> <i>FUEL</i> tag	On box, rack, or crate	Depends on driver licensing and training
Manufacturer's original container Page 43	Per manufacturer	Per manufacturer	Per manufacturer	Per manufacturer	No container larger than 8 gallons; total weight of all hazmat being transported is no more than 440 pounds
Steel drums 1 to 55 gallons Page 44	UN 1A1/X or Y UN 1A2/X or Y	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	Required	Depends on driver licensing and training
Tanks 119 gallons or smaller Page 48	DOT E-11911 or UN 31A	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	Required	Depends on driver licensing and training
Tanks larger than 119 gallons Page 48	DOT 406; MC 306; others per 49 CFR 173.242	None	<i>FLAMMABLE</i> placard	Identification number required	Depends on driver licensing and training

¹Metal jerricans used by Department of the Interior agencies must be retrofitted with a self-closing lid that vents. This lid shall be approved by a nationally recognized laboratory such as Underwriters Laboratories (UL) or Factory Mutual (FM).

²Use of plastic jerricans, consumer plastic fuel containers, and plastic fuel bottles shall be discontinued no later than 3 years after this guide is issued.

³Drip torches not manufactured in accordance with DOT specifications must be replaced no later than 10 years after this guide is published.

REQUIREMENTS FOR GASOLINE, MIXED GAS, AND DRIP-TORCH FUEL That Depend on the Amount of Fuel and the Size of the Container

Amount of fuel and container size	Training Page 23	Shipping papers and Emergency Response Guidebook Page 18	Driver's licensing Page 15	Placarding Page 17	Minimum fire extinguisher size Page 22
All containers are smaller than 8 gallons. The total amount of hazardous materials being transported is no more than 440 pounds.	OSHA <i>Hazard Communication</i> training; DOT <i>Materials of Trade</i> training	Not required	Regular driver's license	Not required	One 5-B:C or two 4-B:C
All containers are smaller than 8 gallons. The total amount of hazardous materials being transported is more than 440 pounds and less than 1,001 pounds.	OSHA <i>Hazard Communication</i> training; DOT general awareness, function specific, safety, security awareness, and driver training	Required	Regular driver's license	Not required	One 5-B:C or two 4-B:C
Any container is larger than 8 gallons but not larger than 119 gallons. The total amount of hazardous materials being transported is less than 1,001 pounds.	OSHA <i>Hazard Communication</i> training; DOT general awareness, function specific, safety, security awareness, and driver training	Required	Regular driver's license	Not required	One 5-B:C or two 4-B:C
1,001 pounds or more of hazardous materials is being transported, regardless of container size	OSHA <i>Hazard Communication</i> training; DOT general awareness, function specific, safety, security awareness, and driver training	Required	Commercial driver's license with hazardous materials endorsement	<i>FLAMMABLE</i> placard with identification number	One 10-B:C
Any tank larger than 119 gallons	OSHA <i>Hazard Communication</i> training; DOT general awareness, function specific, safety, security awareness, and driver training	Required	Commercial driver's license with hazardous materials endorsement. Some States require a tank endorsement as well.	<i>FLAMMABLE</i> placard with identification number	One 10-B:C

APPROVED FUEL CONTAINERS FOR DIESEL

Container type	Specification	Color requirement	Label or placard	Marking (Depends on fuel type)	Number of containers may be transported
Safety transport cans Page 28	UN 3A1 or UN 1A1	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	DIESEL	Not limited
Metal jerricans ¹ Page 28	UN 3A1	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	DIESEL	Not limited
Plastic jerricans ² Page 28	UN 3H1	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	DIESEL	Not limited
Safety cans Page 35	UL or FM	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	DIESEL	Not limited
Steel drums 8 to 55 gallons Page 44	UN 1A1/X or Y UN 1A2/X or Y	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	DIESEL	Not limited
Tanks 119 gallons or smaller Page 52	None	None	<i>FLAMMABLE</i> <i>LIQUID</i> label	DIESEL	Not limited
Tanks larger than 119 gallons Page 52	None	None	<i>FLAMMABLE</i> placard	1202 identification number required	Limited only by driver licensing and training

¹Metal jerricans used by the U.S. Department of the Interior agencies must be retrofitted with a self-closing lid that vents. This lid shall be approved by a nationally recognized laboratory such as Underwriters Laboratories (UL) or Factory Mutual (FM).

²Use of plastic jerricans shall be discontinued no later than 3 years after this guide is issued.



REQUIREMENTS FOR DIESEL That Depend on the Amount of Fuel and the Size of the Container

Amount of fuel and container size	Training Page 23	Shipping papers and <i>Emergency Response Guidebook</i> Page 18	Driver's licensing Page 15	Placarding Page 17	Minimum fire extinguisher size Page 22
All containers are 119 gallons or smaller, regardless of amount transported	OSHA <i>Hazard Communication</i> training	Not required	Regular driver's license	Not required	One 5-B:C or two 4-B:C
Any tank is larger than 119 gallons	OSHA <i>Hazard Communication</i> training; DOT general awareness, function specific, safety, security awareness, and driver training.	Required	Commercial driver's license with hazardous materials endorsement. Some States require a tank endorsement as well.	<i>FLAMMABLE</i> placard with 1202 identification number	One 10-B:C



The following containers are approved for transporting fuel. These containers must meet the specifications shown in parentheses. Specific requirements for use of these containers are described in part two of this guide.

Manufacturers' Original Containers

Manufacturers' containers, such as Coleman fuel cans, may be used to transport their original contents, but shall not be reused (figure 2).



Figure 2—A manufacturer's original fuel container.

Safety Transport Cans (UN 3A1 and UN 1A1)

Safety transport cans (figure 3) are containers that meet DOT specifications for transporting fuel and the OSHA requirements for safety cans. Safety transport cans meeting OSHA requirements are exempt from most States' spillproof container regulations.

A redesigned jerrican-style safety transport can, the Safety Transport LM can, is available from Safeway Products, Inc. These cans have the following features:



Figure 3—A safety transport can.

- A relocated pour handle
- A linkage between the pour handle and the lid on the fill opening that vents the can during pouring and allows fuel to flow faster (figure 4)
- A quick-disconnect flexible pour spout and a clip on the top of the can to store the spout
- A stiffening rib to make the can less prone to damage during temperature changes
- A carrying handle spanning the top of the metal collar

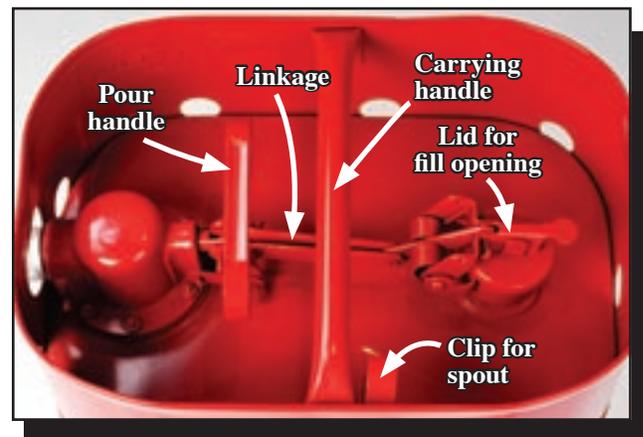


Figure 4—A top view of the Safety Transport LM can showing the linkage between the pour handle and lid for the fill opening.

See appendix D for ordering information.

Military-Style Metal Jerricans (UN 3A1)

Forest Service employees may use metal jerricans (figure 5) without modification. Employees in Department of the



Figure 5—A military-style metal jerrican.

Interior agencies must retrofit metal jerricans with a self-closing lid that vents (figures 6 and 7), such as Justrite part number 11192. See appendix D for ordering information. This self-closing lid shall be approved by a nationally recognized laboratory such as UL or Factory Mutual (FM). The self-closing lid may be removed and replaced with the jerrican's bung (leakproof screw-in top) when deemed necessary to prevent leakage during transportation. The approved self-closing lid must be reinstalled when the jerrican is used for dispensing or is stored.

The Forest Service will evaluate the self-closing lid assembly and make improvements so it is DOT compliant. When an



Figure 6—Military-style metal jerrican retrofitted with a self-closing lid.



Figure 7—A detailed view of a self-closing lid.

OSHA- and DOT-compliant self-closing lid becomes commercially available, the remainder of the land management agencies will phase in the compliant lid's use over a 10-year period. The Forest Service also will develop a means to minimize spillage when fuel is dispensed from a jerrican retrofitted with a self-closing lid.

New metal jerricans that meet DOT, OSHA, and spillproof fuel container (CARB-compliant) specifications are commercially available (figure 8). In addition, replacement spillproof (CARB-compliant) spouts may be purchased to retrofit older metal jerricans (figure 9).



Figure 8—A military-style metal jerrican with a spout that complies with California Air Resources Board standards.

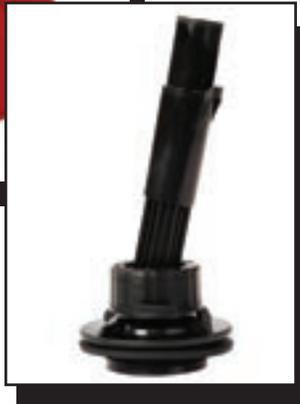


Figure 9—A detailed view of a spout that complies with California Air Resources Board standards.

Safety Cans (UL or FM)

Safety cans (figure 10) meeting OSHA requirements, such as those listed by UL or FM, are exempt from most States' spillproof container regulations. Because safety cans do not meet the UN specifications, fewer can be transported at a time.



Figure 10—A safety can.

Two-Compartment Fuel and Oil Containers (UL)

Two-compartment fuel and oil containers (figure 11)—often called *Dolmars*—may be used to transport fuel.



Figure 11—A two-compartment fuel and oil container, often called a *Dolmar*.

Pump Fuel Tanks

Fuel tanks for the Mark-3 pump (figure 12) and fuel tanks for other pumps are approved for transporting fuel.



Figure 12—A fuel tank for the Mark-3 pump.



Figure 14—A consumer plastic fuel container.



Figure 15—A Nalgene plastic fuel bottle.

Plastic Fuel Containers

Three types of plastic fuel containers are now being used: military-style plastic jerricans (UN 3H1, figure 13), consumer plastic containers (UL, figure 14), and plastic fuel bottles, such as Nalgene bottles (figure 15)

These plastic fuel containers are being phased out. The purchase of new military-style plastic jerricans, consumer plastic containers, and plastic fuel bottles is prohibited.

Use of all military-style plastic jerricans, consumer plastic fuel containers, and plastic fuel bottles shall be discontinued no later than 3 years after this guide is published.

This prohibition does not include plastic two-compartment fuel and oil containers (often called *Dolmars*) that are used for chain saws.

The only exception to the use of plastic jerricans, containers, and fuel bottles after the 3-year phaseout period is when fuel must be transported or dispensed in environmental conditions that make the use of a metal container dangerous. An example is when fuel must be transported in a saltwater environment that can cause metal containers to corrode and leak. Under



Figure 13—A military-style plastic jerrican.

those circumstances, plastic jerricans and containers may be used only if the following conditions are met:

- The regional/station/State safety manager, regional structural fire specialist, fire management officer, or structural fire chief, who has been designated as the authority having jurisdiction as defined by the National Fire Code, approves in writing the storage and use of plastic jerricans and containers.
- The plastic jerricans and containers meet DOT specifications or are approved by a nationally recognized laboratory, such as UL or FM, for the storage of flammable liquids.
- The inside storage area for the plastic jerricans and containers is equipped with a fire detection system. The fire detection system must be able to detect fires when they are small and activate an emergency alarm to alert employees.
- Employees, except members of fire brigades, will be totally evacuated from the container storage area as soon as the fire is detected.
- If employees are expected to fight fire in the storage area:
 - The storage area must be equipped with a fixed automatic fire suppression system designed to control, if not extinguish, a fire involving plastic containers.
 - The employees must be trained in specific methods for fighting plastic container fires and recognize the hazards associated with fighting fires in areas where plastic containers are stored.
- The storage area for the plastic jerricans and containers must be equipped with dikes or containment devices. If the storage area is in a general purpose warehouse or other occupied facility, it shall have diking or curbing and have drains installed to contain the volume of all the stored liquid and extinguishing agent and drain it to a safe location. The drainage paths must be designed so they do not intersect, pass over, or pass under employee emergency exit routes.

Drip Torches That Meet DOT Specifications (UN 3B1)

All new drip torches must meet Forest Service specification 5100-614 and DOT specifications (UN 3B1, UN 1B1, UN 3A1, and others, figures 16 and 17).



Figure 16—
A drip torch.



Figure 17—The UN marking shows that this drip torch meets DOT specifications.

Drip Torches That Do Not Meet DOT Specifications

Drip torches that do not meet DOT specifications may be used, but:

- They are not recommended for carrying fuel on public highways.
- They shall be phased out within 10 years from the publication of this guide.
- Parts shall not be interchanged between DOT specification and nonspecification drip torches.

Aluminum Fuel Bottles

Aluminum fuel bottles (often called *Sigg* bottles, General Services Administration National Stock Number 7240-01-351-2133) are approved for transporting fuel (figure 18).

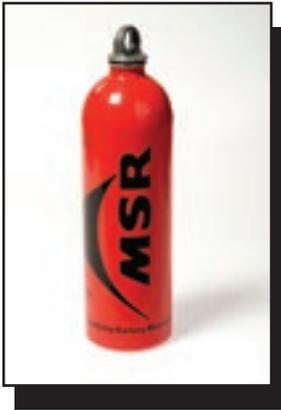


Figure 18—An aluminum fuel bottle (often called a *Sigg* bottle).

NOTE: Red aluminum fuel bottles must never be used as beverage containers!

Steel Drums (1 to 55 Gallons)

- Use steel drums without removable heads (UN 1A1) to transport flammable and combustible liquids (figure 19).
- Use steel drums with removable heads (UN 1A2, figure 20) or without removable heads (UN 1A1) for aerial ignition.
- Use steel drums with removable heads (UN 1A2) to transport hazardous waste or damaged fuel containers.



Figure 19—A UN 1A1 drum. This drum does not have a removable head.



Figure 20—A UN 1A2 drum. This drum has a removable head.

Approved Fuel Tanks

Part One

The following tanks are approved for transporting fuel.

All tanks that do not meet DOT specifications that are being used to transport gasoline or drip-torch fuel shall be replaced within 12 months from issuance of this guide.

Tanks 119 Gallons or Smaller for Flammable Liquids

Transfer Flow refueling tanks (UN 31A, marked *DOT-E 119II*, figure 21).



Figure 21—A 100-gallon Transfer Flow tank.

- 30-gallon toolbox/tank, Transfer Flow part number 080-01-12975
- 50 gallon, Transfer Flow part number 080-01-09417
- 50-gallon toolbox/tank, Transfer Flow part number 080-01-13252
- 50/50-gallon split tank, Transfer Flow part number 080-01-13244
- 74 gallon, Transfer Flow part number 080-01-09420
- 100 gallon, Transfer Flow part number 080-01-09416 or 080-01-09418

Custom Metalcraft (UN 31A tanks)—The customer specifies the capacity of these tanks (figure 22).



Figure 22—A Custom Metalcraft tank.

Tanks Larger Than 119 Gallons for Flammable Liquids

- DOT 406 (figure 23)
- MC 306
- Other tanks (see 49 CFR 173.242)



Figure 23—A 240-gallon DOT-406 tank being used as a batch mixer.

Tanks for Diesel

- Tanks that do not meet specifications for transporting flammable liquids, such as the tanks found in ranch supply stores (figures 24a and 24b) may be used to transport diesel.



Figure 24a.



Figure 24b.

Figures 24a and 24b—A typical nonspecification tank (24a) for transporting diesel. Note the label (24b) warning that this tank does not comply with regulations for transporting gasoline. Regulations do not require a DOT-specification tank for transporting diesel. This photo has been digitally manipulated to show the *DIESEL* marking.

Limiting Fuel Transported To Limit Regulatory Requirements

Part One

The type of driver's license and training required depend on the amount of fuel being transported and the size and type of the fuel container. If no more than 440 pounds of hazardous materials (including the weight of the containers) are being transported in containers with a capacity of no more than 8 gallons, shipping papers are not required. The only training needed is OSHA *Hazard Communication* training and DOT *Materials of Trade* training. The 440 pounds includes all hazardous materials being transported, not just gasoline, mixed gas, or drip-torch fuel. For example, if you are carrying 140 pounds of fusees, you may carry only 300 pounds of fuel and containers. Empty containers that contain residual amounts of fuel also must be included in the 440-pound weight limit.

If the overall weight being transported is more than 440 pounds, but less than 1,001 pounds, or if the capacity of any container is more than 8 gallons but is 119 gallons or less, the following are required:

- Shipping papers must be carried in the vehicle (page 18).
- A copy of the *Emergency Response Guidebook* (ERG) must be carried in the vehicle (page 19).
- Additional training is required (page 23).

When a shipment weighs 1,001 pounds or more or when fuel is being carried in a container larger than 119 gallons, the following are required:

- A commercial driver's license (CDL) with a hazardous materials endorsement.

To avoid the need for a commercial driver's license, limit the total amount of fuel being transported to 119 gallons or less than 1,001 pounds.

- Shipping papers (carried in the vehicle, page 18).
- The *Emergency Response Guidebook* (carried in the vehicle, page 19).
- Additional training (page 23).
- In certain States—a tank endorsement.

To avoid the need for shipping papers and to reduce training requirements, limit the total amount of hazardous materials—including fuel being transported—to 440 pounds, with no fuel container larger than 8 gallons.



Labeling, marking, and placarding are required so employees and emergency response personnel can identify the contents of a container or tank rapidly and respond appropriately in an emergency.

Labeling

The diamond-shaped (red background with white letters) *FLAMMABLE LIQUID* label (figure 25) is required on many gasoline, mixed gas, drip-torch fuel, and diesel containers of 119 gallons or less. These labels are available through several vendors. They must be maintained in good condition.



Figure 25—A
FLAMMABLE LIQUID
label.

Marking

Most containers must be marked with a description of its contents and the UN identification number, if applicable.

- Metal gasoline or mixed gas containers (except for aluminum fuel bottles) shall be marked *GASOLINE UN1203* (figures 26a and 26b).

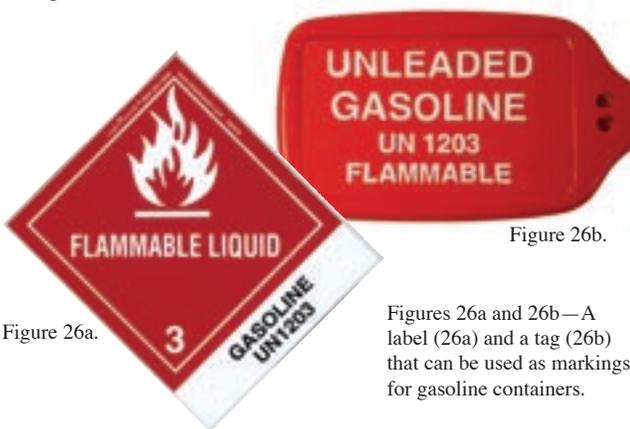


Figure 26a.

Figures 26a and 26b—A label (26a) and a tag (26b) that can be used as markings for gasoline containers.

- Aluminum fuel bottles that have the words *Fuel Bottle* on the body of the bottle are acceptable for use with no additional marking.
- Plastic fuel containers that have the word *GASOLINE* molded into the side of the container are acceptable for use with no additional marking.
- Drip-torch fuel containers shall be marked *FLAMMABLE LIQUIDS N.O.S. (DIESEL GASOLINE MIXTURE) UN1993*. The abbreviation *N.O.S.* stands for *not otherwise specified*. In addition, containers also may be marked with the words *DRIP TORCH FUEL* to help employees identify the contents (figures 27a and 27b).



Figure 27a.

Figure 27b.

Figures 27a and 27b—A label (27a) and a tag (27b) that can be used as markings for drip-torch fuel containers.

- Diesel containers shall be marked *DIESEL*.

The minimum size of the lettering depends on the container:

- Safety transport cans, metal jerricans, safety cans: $\frac{3}{16}$ inch high by $\frac{1}{8}$ inch wide
- 55-gallon drums: $\frac{1}{2}$ inch high by $\frac{3}{16}$ inch wide
- Tanks 119 gallons or smaller: $\frac{3}{4}$ inch high by $\frac{3}{16}$ inch wide
- Tanks larger than 119 gallons: 2 inches high by $\frac{1}{4}$ inch wide

Markings shall be printed on the surface of the container, applied to the container as a sign or label, or attached to the container as a tag (figure 28). They must be maintained in good condition.



Figure 28—Plastic tags are available for marking gasoline, mixed gas, drip-torch fuel, and diesel containers. See appendix D for ordering information.

Markings must be displayed on a background of sharply contrasting color, not obscured by labels or attachments, and be far enough away from other labels and signs to prevent confusion.

Placarding

A *FLAMMABLE* placard (figure 29) is required when the gross weight of all hazardous materials is 1,001 pounds or more or when any tank is larger than 119 gallons. Placards must be installed on each side and on each end of the transport vehicle or tank.

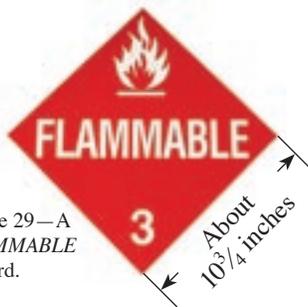


Figure 29—A *FLAMMABLE* placard.

United Nations Identification Numbers

If placards are required, the UN identification number also must be displayed. The identification number may be shown separately as an orange panel (figure 30) or may be included as part of the placard (figure 31). The UN identification number for:

- Gasoline or mixed gas is 1203.
- Drip-torch fuel is 1993.
- Diesel is 1202.



Figure 30—A *FLAMMABLE* placard with a separate identification number.



Figure 31—A *FLAMMABLE* placard with the identification number included.

Shipping Papers and Emergency Response Information

Part One

Shipping papers and the *Emergency Response Guidebook* are used to help emergency responders during an accident. These materials must be carried so they are available immediately to emergency responders and accident investigators.

For transporting gasoline, mixed gas, and drip-torch fuel, shipping papers and the *Emergency Response Guidebook* must be carried in a vehicle when either:

- A container's capacity is more than 8 gallons.
- More than 440 pounds of all hazardous materials, such as fuel, fusees, or propane, are being carried.

Shipping papers and the *Emergency Response Guidebook* are not required for gasoline, mixed gas, and drip-torch fuel when either:

- All containers are 8 gallons or smaller and 440 pounds or less of all hazardous materials, such as fuel, fusees, or propane, are being transported.
- Residual fuel (residue) is transported in containers 119 gallons or smaller.

Shipping papers and the *Emergency Response Guidebook* are required only when diesel is transported in tanks larger than 119 gallons.

Shipping Papers

Follow these steps when preparing shipping papers (see appendix A for examples) and when determining how long to retain them:

- All entries must be legible and printed in English.
- Codes and abbreviations are not allowed.
- A copy of the shipping paper must be maintained at the local unit for 375 days after the shipment.

Information to be shown on a shipping paper:

- The proper shipping name.

–For gasoline and mixed gas, the proper shipping name is *GASOLINE*.

–For drip-torch fuel, the proper shipping name is *FLAMMABLE LIQUIDS N.O.S (DIESEL GASOLINE MIXTURE)*.

–For diesel, the proper shipping name is *DIESEL FUEL*. Shipping papers are required only when the container is larger than 119 gallons.

- The hazard class or division number
 - For gasoline, mixed gas, drip-torch fuel, and diesel, the hazard class is 3.
- The UN identification number
 - For gasoline and mixed gas, the identification number is *UN1203*.
 - For drip-torch fuel, the identification number is *UN1993*.
 - For diesel, the identification number is *UN1202*.
- The packing group number designated by Roman numerals
 - For gasoline, mixed gas, and drip-torch fuel, the packing group number is *II*.
 - For diesel, the packing group number is *III*.
- The total quantity of fuel
 - For containers and tanks 119 gallons or smaller, the amount of each type of fuel being carried must be expressed in gallons or liters.
 - For tanks larger than 119 gallons, the total quantity of fuel may be indicated by the words: *1 CARGO TANK*.
- The number and types of containers, including descriptions, such as 14 jerricans.
 - The container specification number may also be identified, for example, 14 UN 3A1 jerricans.
 - A separate description must be included for each type of container being transported.
- An emergency response telephone number.
 - This phone number must be monitored at all times when the material is in transit (including storage incidental to transportation), and must be the phone number of someone who has comprehensive knowledge of the emergency response and incident mitigation information for the material or has immediate access to a person with this knowledge.



–The emergency response phone number must either be printed following the description of the hazardous material or written once on the shipping paper in a clearly visible location. The toll-free CHEMTREK (chemical transportation emergency center) telephone number, commonly listed as an emergency response phone number, cannot be used by most land management agencies because the agencies do not subscribe to this service.

Emergency Response Guidebook

The *Emergency Response Guidebook* (figure 32) must be carried in the cab of each vehicle anytime shipping papers are required. The *Emergency Response Guidebook* describes the hazards of material being transported so emergency responders can take the appropriate actions during an accident. The potential hazards and emergency response information for each hazardous material are listed in the guidebook by guide number. The guide number for gasoline, mixed gas, drip-torch fuel, and diesel is 128. The

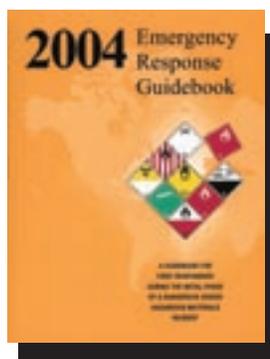


Figure 32—The *Emergency Response Guidebook*.

Emergency Response Guidebook is available from several vendors or can be downloaded from the DOT Web site at <http://hazmat.dot.gov>.

Location of Shipping Papers and the Emergency Response Guidebook

The shipping papers and *Emergency Response Guidebook* must be carried where they are easily available to the driver and emergency responders. When the driver is at the vehicle's controls, the shipping paper and *Emergency Response Guidebook* shall be:

- Within the driver's immediate reach when the driver is restrained by the seatbelt
- Readily visible to a person entering the driver's compartment, such as in plain sight on the seat or in a holder mounted to the inside of the driver's side door

When the driver is not at the vehicle's controls, the shipping paper and *Emergency Response Guidebook* shall either be:

- In a holder mounted on the inside of the driver's side door (figure 33)
- On the vehicle's driver's seat



Figure 33—An example of an appropriate storage location for shipping papers and the *Emergency Response Guidebook*.

MSDSs

OSHA allows MSDSs to be kept at the “primary workplace facility” as long as employees can “immediately obtain the required information in an emergency.” Employees must ensure that MSDSs for the hazardous materials they will be transporting are available at their duty station (ranger district, work center, fire camp, or other facility) and that they can immediately contact someone at the duty station to obtain the information on the MSDS. If employees will be working where they cannot contact their duty station immediately, copies of the MSDSs for the hazardous materials they will be transporting and using must be carried in the vehicle, regardless of the amount of fuel being transported. Sample MSDSs are included in appendix E.

Do not transport liquid fuels, such as gasoline, mixed gas, drip-torch fuel, or diesel in the same vehicle with:

- Explosives
- Poisonous gases
- Oxidizers, such as plastic spheres filled with potassium permanganate that are used for aerial ignition (figure 34)
- Poisonous liquids



Figure 34—Plastic spheres used for aerial ignition.

Leaking containers shall not be transported. If a container is damaged in the field, empty the contents of the damaged container into an undamaged container. The damaged container may be transported from the field to a proper disposal location by placing it in a UN 1A2 removable-head drum and installing the drum head or by

evaporating the residue. To evaporate the residue from the damaged container, make sure that the container has been emptied as thoroughly as possible into another undamaged container and remove the caps or prop open the spring-loaded lids until the contents evaporate.

A fire extinguisher must be carried on each vehicle transporting fuel or other hazardous materials. The required size of the extinguisher depends on the amount of hazardous materials being transported and the capacity of any tank that is being used.

If the amount of hazardous materials being transported is less than 1,001 pounds or the tank capacity is 119 gallons or less:

- A minimum of one 5-B:C or two 4-B:C fire extinguishers must be carried on the transport vehicle.

If 1,001 pounds or more of hazardous materials are being transported or the tank is larger than 119 gallons:

- A minimum of one 10-B:C (figures 35a and 35b) fire extinguisher must be carried on the transport vehicle.



Figure 35a.



Figure 35b.

Figures 35a and 35b—A 10-B:C fire extinguisher (35a) and the label (35b) showing that the fire extinguisher is UL listed and that it is rated 10-B:C.

Monthly inspections—OSHA requires that fire extinguishers be visually inspected monthly by facility personnel (who check the recharge dial and make sure that the pin is in place). Typically, this information is documented on the back of the annual inspection tag or on an additional tag.

Annual inspections—OSHA requires that fire extinguishers be inspected annually by certified personnel. This inspection checks the condition of a variety of the extinguisher's components including, but not limited to:

- Whether the hose is in good condition
- Whether the extinguishing agent needs to be replaced
- Whether the extinguisher is due for hydrostatic testing

The annual inspection date must be recorded and maintained for at least 1 year. Typically, this information is documented on a tag (figure 36) or sticker secured to the fire extinguisher.



Figure 36—A fire extinguisher inspection tag.

Training is required for all employees who transport, prepare for transport, load and unload, or are responsible for the safety of hazardous materials that are being transported, such as gasoline, mixed gas, drip-torch fuel, and diesel. The type of training required depends on the amount of hazardous materials being transported.

All training must be completed no later than 12 months from issuance of this guide.

OSHA Hazard Communication Training

All employees who transport, prepare for transport, load and unload, or are responsible for the safety of hazardous materials that are being transported must complete OSHA *Hazard Communication* training.

DOT Materials of Trade Training To Transport Small Amounts of Hazardous Materials

If fuel is being transported in containers 8 gallons or smaller and the total weight of hazardous materials being transported is 440 pounds or less, employees must have the DOT *Materials of Trade* training.

A training program designed specifically for Federal land-management agencies will be developed by the Forest Service during Fiscal Year 2006. A thorough reading and understanding of the following topics will fulfill the DOT *Materials of Trade* training requirement until a formal training program is adopted:

- Identification of common hazardous materials, such as fuels, propane, and plastic spheres filled with potassium permanganate and their associated hazards.
- Container requirements including:
 - Approved containers (page 7)
 - Labeling and marking requirements (page 16)

- Inspection for damage and leakage (page 26, 30, 33, 36, 37, 39, 41, 43)
- Size limitations (maximum size is 8 gallons)
- Weight limitations (maximum weight is 440 pounds for all hazardous materials)
- Requirements to secure containers so they cannot move, protecting them from damage (page 26, 31, 33, 36, 38, 40, 42, 43)
- Identification of materials that should not be transported with liquid fuels (page 20)

Training To Transport Large Amounts of Hazardous Materials

When fuel is transported in any container larger than 8 gallons or when the total weight of hazardous materials being transported is more than 440 pounds, regardless of container size, employees must have additional training. This training consists of general awareness/familiarization, function-specific, safety, security awareness, and driver training. Before handling or transporting gasoline, mixed gas, or drip-torch fuel, DOT regulations require that they:

- Attend this training
- Pass a test
- Be certified

For transporting diesel, this additional training is required only for drivers transporting tanks larger than 119 gallons.

Here's a little background about each component of the additional training:

- General awareness/familiarization training acquaints employees with the general requirements of the DOT regulations and enables them to recognize and identify hazardous materials.
- Function-specific training addresses the requirements of the DOT regulations and exemptions that apply directly to the tasks employees are performing.
- Safety training provides employees with the emergency response information required by DOT regulations, measures needed to protect them from the hazards of the



materials they will be exposed to, and methods and procedures for avoiding accidents.

- Security awareness training identifies security risks associated with handling hazardous materials and methods designed to enhance transportation security. This training also covers how to recognize and respond to possible security threats.
- Driver training includes:
 - Pretrip safety inspections
 - Use of vehicle controls and equipment
 - Vehicle operation
 - Procedures for maneuvering at tunnels, bridges, and railroad crossings
 - Times when the driver must be present at the vehicle
 - Procedures for loading and unloading materials
 - Specialized requirements for tanks

The requirement for driver training can be met by obtaining a CDL with a hazardous materials or tank endorsement. For drivers who do not need a CDL, driver training must be taken as a separate course.

Training programs required by other Federal or international agencies, such as OSHA *Hazard Communication* training or Environmental Protection Agency training, may be used

to satisfy the referenced training requirements if the training addresses the elements listed. Until a training program is designed specifically for Federal land management agencies, training is available from the DOT training center in Oklahoma City and from commercial vendors.

Refresher Training

Employees must receive applicable training at least once every 3 years.

Training Records

Keep records of each employee’s training history for the previous 3 years. Retain these records for 90 days beyond the last date of the employee’s employment. Training records shall include:

- Employee’s name
- Date of most recent training
- Description, copy, or location of materials used during training
- Name and address of trainer
- Certification of training

Line 1

Line 2

