

2002 EDITION

INSTRUCTOR

Hazardous Materials Transportation Training Modules

MODULE 2 Shipping Papers



U.S. Department of Transportation
Research and Special Programs
Administration

ABC Chemical Company
2004 Main Street
Wolfsburg, WY 82009

Delivery Address:
Interstate 00 Chemical Co.
1 Federal Road
Anywhere, USA 01234

Billing Address:

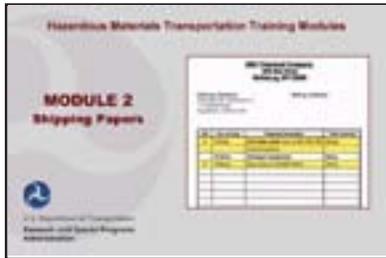
HM	No. of Units	Shipping Description	Total Quantity
X	4 Drums	Flammable liquid, n.o.s., 3, UN 1993, PGII (Furan & Acetone)	200 gal
	25 Boxes	Newspaper Supplements	300 kg
X	10 Boxes	Butyric Acid, 8, UN 2820, PG II	200 Kg

Script

Visual

Narrative

1



This module presents the DOT requirements for the preparation of shipping papers containing the hazardous materials information required by the Hazardous Materials Regulations.

2



The term “shipping paper,” as used by the transportation industry, refers to the document used for billing, accountability, and other day-to-day activities involving the transport of hazardous materials. Shipping papers must be retained for 375 days by the offeror and the carrier.

3



Acceptable shipping papers include shipping orders, bill of lading, manifest or other shipping document serving a similar purpose and containing the information required by the regulation.

Quick Review #1

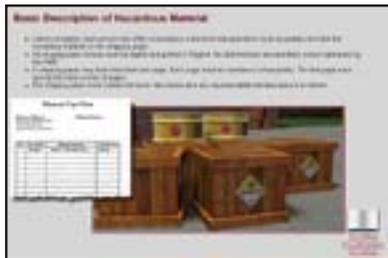
Instructions: Select the best answer from the four choices provided.

A shipping paper may be in any form or format as long as it contains the information required by the _____ in the correct sequence.

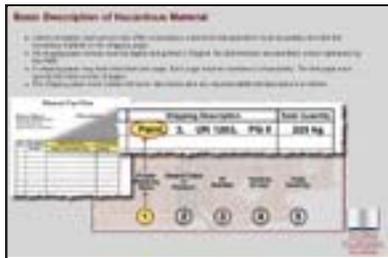
- A. HMR
- B. HMA
- C. HMT
- D. HMX

Correct Answer: A HMR

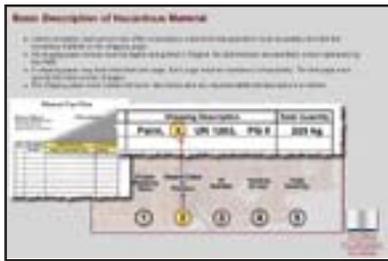
4



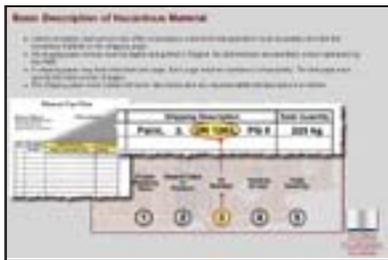
All shipping papers must accurately describe and identify the hazardous materials in this sequence:



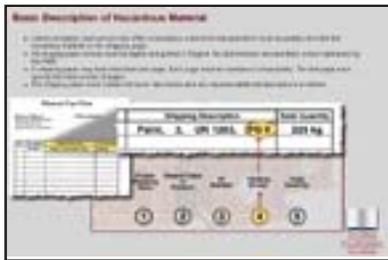
first, the proper shipping name,



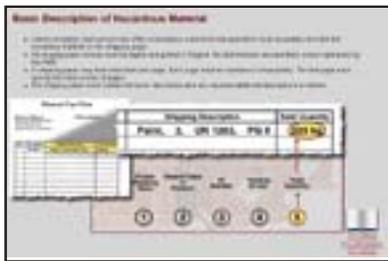
second, the hazard class or division,



third, the ID number,



fourth, the packing group,



and last the total quantity. These five items are known as the hazardous material's basic description.

Quick Review #2

Instructions: Select the term that correctly completes the statements.

Terms:

- A. Packing Group
- B. additional
- C. ID No.
- D. Hazard Class or Division
- E. Proper Shipping Name

Statements:

The basic description of a hazardous material includes four items in a specified order, and the Total Quantity before, or after, or both before and after. These four items in the specified order are:

- [1]. _____
- [2]. _____
- [3]. _____
- [4]. _____

A shipping paper must also include _____ descriptive information required by 172.203.

Correct Answers:

- 1. E Proper Shipping Name
- 2. D Hazard Class or Division
- 3. C ID No.
- 4. A Packing Group
- 5. B additional

5



A shipping paper must accurately communicate the hazards of the materials being transported and contain an emergency response telephone number. The basic description of the hazardous material must include these five items, in this sequence: Proper shipping name, Hazard class or division, Identification Number, Packing Group, and Total Quantity. Click on each button to learn more.

6

The image shows a screenshot of the Hazardous Materials Table (HMT) with the 'Proper Shipping Name' column highlighted in yellow. The table is titled '2012 HM Identification Worksheet Table' and contains columns for Hazard Class, Proper Shipping Name, and Identification Number. The highlighted column lists various hazardous materials and their corresponding shipping names.

The proper shipping name is located in Column 2 of the HMT. Proper shipping names are written in Roman type only. It's critical that the proper shipping name be spelled correctly on shipping papers. Proper response to hazardous material incidents depends on the correct identification of the material.

7

The image shows a screenshot of the Hazardous Materials Table (HMT) with the 'Hazard Class or Division' column highlighted in yellow. The table is titled '2012 HM Identification Worksheet Table' and contains columns for Hazard Class, Proper Shipping Name, and Identification Number. The highlighted column lists various hazardous materials and their corresponding hazard class or division numbers.

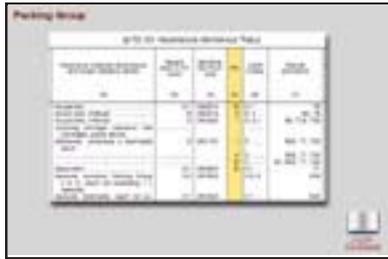
The Hazard Class or Division is located in Column 3 of the HMT. The hazard class of a hazardous material is indicated either by its class or division number, its class name, or by the letters "ORM-D".

8

The image shows a screenshot of the Hazardous Materials Table (HMT) with the 'Identification Number' column highlighted in yellow. The table is titled '2012 HM Identification Worksheet Table' and contains columns for Hazard Class, Proper Shipping Name, and Identification Number. The highlighted column lists various hazardous materials and their corresponding identification numbers.

The Identification Number is located in Column 4 of the HMT. The 4-digit identification number provides quick identification of all hazardous materials. Identification Numbers preceded by "UN" are descriptions of materials for domestic and/or international shipments, while numbers preceded by "NA" describe material designated for shipments within the United States or between the US and Canada.

9



The Packing Group is located in Column 5 of the HMT. The packing group number is written in roman numerals and on the shipping paper the letters PG may be placed before the number. Packing Group One indicates the greatest level of danger, while Packing Group Three indicates the lowest level of danger.

10



Abbreviations may be used to express units of measurement and types of packagings. For example: one drum, 208 liters or 55 gallons or one carton, 3629 kilograms, or 800 pounds. The total quantity must include the unit of measurement, such as liters, gallons, kilograms or pounds. Quantity may be shown as gross or net mass or weight.

11



Remember, the basic description is the proper shipping name, hazard class or division, ID No., packing group, and total quantity in that sequence. Note that the total quantity may appear before or after, or both before and after the basic description entries as shown here.

Quick Review #3

Instructions: Select the correct answer from the choices provided.

The shipping paper must accurately communicate the hazards of the material. Part of this communication process involves accurately listing the basic description in the proper sequence, which is: proper shipping name, Packing Group (PG), ID No., hazard class or division, and total quantity.

- A. True
- B. False

Correct Answer: B False

Quick Review #4

Instructions: Select the best answer from the four choices provided.

The shipping description includes the proper shipping name, hazard class or division, ID No., and packing group, plus the _____ of the hazardous material.

- A. markings
- B. RQ
- C. total quantity
- D. physical form

Correct Answer: C total quantity

Quick Review #5

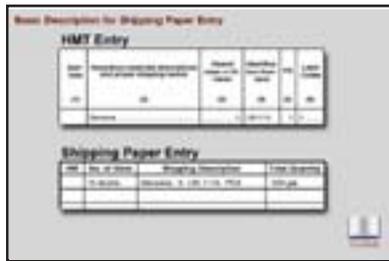
Instructions: Select the correct answer from the choices provided.

The total quantity, the type of packing and description marks may be entered before or after the basic description.

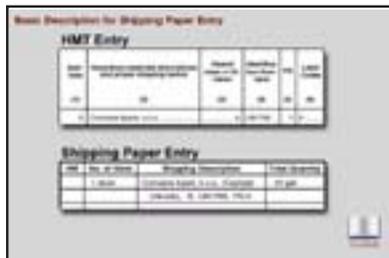
- A. True
- B. False

Correct Answer: A True

12

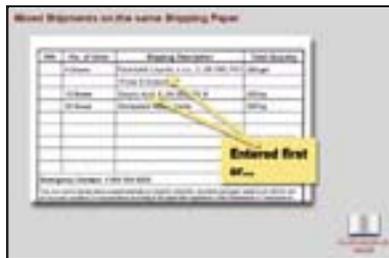


The basic description must be shown in the HMT sequence: proper shipping name, hazard class or division, ID No., Packing Group, and total quantity. Example: Benzene, 3, UN 1114, Packing Group II, 300 gal, in that order!

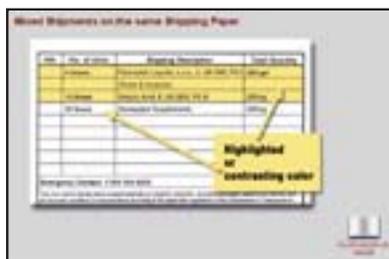


However, technical and chemical group names may be entered in parenthesis between the proper shipping name and the hazard class or following the basic description. Example: Corrosive liquid, n.o.s., (Caprylyl chloride), 8, UN1760, Packing Group II, 20 gal, in that order!

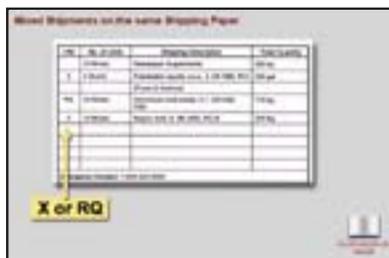
13



A hazardous material and a non-hazardous material may be placed on the same shipping paper; however, the hazardous material entries must be entered first, or



entered in a color that clearly contrasts with any description of a material not subject to the regulations. Highlighting is authorized on reproduced copies of a shipping paper, or



the hazardous material may be identified by an “X” in a column captioned “HM.” Instead of an “X,” the letters “RQ,” for Reportable Quantity, may be entered in this column to identify a hazardous substance.

Quick Review #6

Instructions: Select the term that correctly completes the statement.

Terms:

- A. spell out
- B. abbreviate
- C. non hazardous materials first
- D. hazardous materials first

Statements:

1. The total quantity may be shown before or after or both before and after the basic description. You may _____ the type of package and the unit of measurement.
2. A shipping paper used to describe a hazardous material and a non-hazardous material must identify the hazardous material by: listing the _____, or marking an “X” in the “HM” column or the letters “RQ”.

Correct Answers:

1. B abbreviate
2. D hazardous materials first

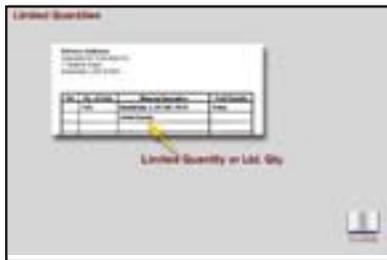
14

The description is not complete unless additional information required by 172.203 has been entered in the appropriate manner. Click on the buttons to learn more.

15

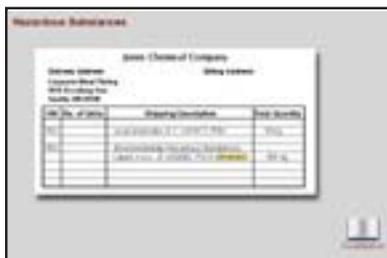
The USDOT has granted exemptions or relief from certain hazardous materials regulations for specific packagings or shipping procedures. If shipment is made under an exemption, the shipping paper must include the letters “DOT-E” followed by the assigned exemption number. The exemption number must be placed so that it is clearly associated with the description to which the exemption applies.

16



Certain hazardous material may be shipped as a limited quantity. If so, the words “Limited Quantity” or the abbreviation “Ltd. Qty.” must be included on the shipping paper following the basic description.

17



For a hazardous substance shipment, the letters “RQ” must be entered on the shipping paper. Enter “RQ” before or after the basic description for each hazardous substance. Some proper shipping names of hazardous substances do not identify the hazardous substance by name. In this case, the name of the hazardous substance component listed in Appendix A to the HMT must be entered in parentheses in association with the basic description. If the material contains two or more hazardous substances, at least the two hazardous substances with the lowest “RQ” must be identified. In the example shown, Amitrole must be in parentheses.

18



Table 2 of the 172.101 Table contains the list of hazardous substances and reportable quantities for radioactive materials. A shipment of radioactive material must include the appropriate additional shipping paper entries, as shown. The words RADIOACTIVE MATERIAL must be included in the description, unless the words are part of the proper shipping name.

19



The shipping paper for an empty packaging containing a residue of a hazardous material may include the words “RESIDUE: Last Contained” followed by the name of the hazardous material residue. The shipping paper for a tank car that contains only the residue of a hazardous material must include the words “RESIDUE: Last Contained” followed by the basic description of the hazardous material residue.

Quick Review #7

Instructions: Click and drag each of the terms shown here to fill in the blanks below. Click on the DONE button when you are finished.

Terms:

- | | | | |
|---------------------|-------------------|--------------|-------|
| A. exemption number | B. exception code | C. Ltd. Qty. | D. RQ |
| E. HM | F. must | G. should | |

Statements:

_____ 1. If a shipment of a hazardous material is made under an exemption, the shipping paper must include the letters “DOT-E” followed by the _____.

_____ 2. For a limited quantity shipment, the words “Limited Quantity” or the abbreviation _____ must be entered, following the basic description.

_____ 3. On the shipping paper, identify hazardous substances with the letters _____ before or after the basic description.

_____ 4. For a packaging containing a hazardous material residue, the phrase “RESIDUE Last Contained ***” may appear on the shipping paper, but for any residue in a tank car, “RESIDUE Last Contained ***” _____ appear on the shipping paper.

Correct Answers:

1. A exemption number
2. C Ltd. Qty.
3. D RQ
4. F must

20



Additional entries may be required on the shipping paper, based on the mode of transport for the hazardous material. Click on the buttons to learn about these additional entries.

21



The regulations prohibit or forbid transporting some materials aboard passenger carrying aircraft. The words “Cargo Aircraft Only” must follow the basic description on the shipping paper for these materials.

22



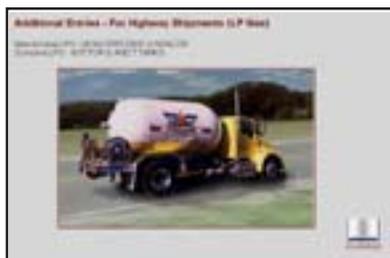
When a hazardous material is transported in a rail car, freight container, transport vehicle or portable tank, the shipping paper must include the reporting mark and number. When a Division 2.1 (flammable gas) is being transported in a DOT-113 tank car, additional notations must appear on the shipping paper. These additional notations include: Identify the type of tank car, in this case, DOT-113, and state the prohibition “Do Not Hump or Cut Off Car While in Motion.” This prohibition forbids moving the car under its own momentum, called “humping”. Uncoupling or cutting the car loose while in motion is forbidden.

23



When anhydrous ammonia containing 0.2% water or more by weight is transported by highway in either an MC 330 or MC 331 cargo tank, the shipping paper must have the notation: "0.2 PERCENT WATER" to indicate the suitability for shipping anhydrous ammonia in a cargo tank made of quenched and tempered steel. The notation must follow the basic description. When anhydrous ammonia contains less than 0.2% water by weight, the words "NOT FOR Q AND T TANKS" must be entered on the shipping paper, following the basic description.

24



When non-corrosive liquefied petroleum gas or LPG is transported by highway in a QT MC 330 or MC 331 cargo tank; the words "NONCORROSIVE" or "NONCOR" must be added to the shipping paper. This entry, following the basic description, indicates the tank is suitable for transporting the material. For grades of LPG considered corrosive, the words "NOT FOR Q and T TANKS" must be added to the shipping paper, following the basic description.

25



Water shipments of hazardous materials must have the following shipping paper entries:

- the type of packages - barrels, drums, cylinders, or boxes;
- the number of each type of package;
- the gross mass of each type of package, or the individual or gross mass of each package; and
- the name of the shipper.

Quick Review #8

Instructions: Select the term that correctly completes these statements.

Terms:

- A. prohibited or forbidden
- B. transported
- C. highway
- D. rail
- E. 0.2 percent or more water
- F. less than 0.2 percent water
- G. corrosive
- H. non-corrosive
- I. net weight
- J. gross mass

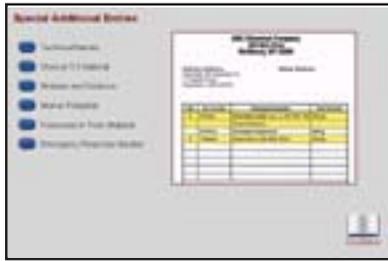
Statements:

1. “Cargo Aircraft Only” must be entered on the shipping paper after the basic description when the material is _____ on passenger carrying aircraft.
2. For a hazardous material transported in a _____ car, freight container, transport vehicle or portable tank, the reporting mark and number must be on the shipping paper.
3. When anhydrous ammonia containing _____ is transported by highway in either an MC 330 or MC 331 cargo tank, the shipping paper must have the notation: “0.2 PERCENT WATER”.
4. QT MC 330 and MC 331 cargo tanks may not transport _____ LPG and the shipping paper must have the notation “Not for Q and T tanks”.
5. Shipping papers for water shipments of hazardous materials must identify the type and number of each type of package, the _____ of each package type, or the individual gross mass of each package, and the name of the shipper.

Correct Answers:

1. A prohibited or forbidden
2. D rail
3. E 0.2 percent or more water
4. G corrosive
5. J gross mass

26



In certain instances, additional entries are required on the shipping paper to help clearly communicate the dangers or special precautions necessary to properly handle and transport hazardous materials in accordance with the HMT. Click on the buttons to learn more about these special entries required on shipping papers.

27

HMT Entry	Proper Shipping Name	Hazard Class	Special Label
1. Corrosive liquids, n.o.s.	Corrosive liquid, n.o.s.	8	Corrosive
2. Corrosive liquids, organic	Corrosive liquid, organic	8	Corrosive
3. Corrosive liquids, inorganic	Corrosive liquid, inorganic	8	Corrosive
4. Corrosive solids, n.o.s.	Corrosive solid, n.o.s.	8	Corrosive
5. Corrosive solids, organic	Corrosive solid, organic	8	Corrosive
6. Corrosive solids, inorganic	Corrosive solid, inorganic	8	Corrosive

The letter “G” in Column (1) of the HMT identifies n.o.s. and generic proper shipping names requiring a technical name. If a hazardous material is described on a shipping paper by one of the proper shipping names listed in 172.101 and identified with the letter “G” in Column (1) of the HMT, the technical name must be shown in parentheses in association with the proper shipping name. The word “Contains” also may be used with the technical name, if appropriate.

HMT Entry	Proper Shipping Name	Hazard Class	Special Label
1. Corrosive liquids, n.o.s.	Corrosive liquid, n.o.s.	8	Corrosive
2. Corrosive liquids, organic	Corrosive liquid, organic	8	Corrosive
3. Corrosive liquids, inorganic	Corrosive liquid, inorganic	8	Corrosive
4. Corrosive solids, n.o.s.	Corrosive solid, n.o.s.	8	Corrosive
5. Corrosive solids, organic	Corrosive solid, organic	8	Corrosive
6. Corrosive solids, inorganic	Corrosive solid, inorganic	8	Corrosive

Look at the proper shipping name entry for Corrosive liquids, n.o.s. in the HMT. The n.o.s. description does not name the hazardous constituent. In this case, the hazardous constituent is Sulfuric acid. Sulfuric acid is not listed by name in the HMT but meets the definition of a corrosive material.

HMT Entry	Proper Shipping Name	Hazard Class	Special Label
1. Corrosive liquids, n.o.s.	Corrosive liquid, n.o.s.	8	Corrosive
2. Corrosive liquids, organic	Corrosive liquid, organic	8	Corrosive
3. Corrosive liquids, inorganic	Corrosive liquid, inorganic	8	Corrosive
4. Corrosive solids, n.o.s.	Corrosive solid, n.o.s.	8	Corrosive
5. Corrosive solids, organic	Corrosive solid, organic	8	Corrosive
6. Corrosive solids, inorganic	Corrosive solid, inorganic	8	Corrosive

HAZ	UN No. or Code	Proper Shipping Name	Quantity
8	1500	Corrosive liquid, n.o.s. (Sulfuric acid)	100
8	1500	Corrosive liquid, n.o.s.	100
8	1500	Corrosive liquid, n.o.s.	100

Therefore, the technical name, Sulfuric acid, must be added in parentheses in association with the basic description.

Quick Review #9

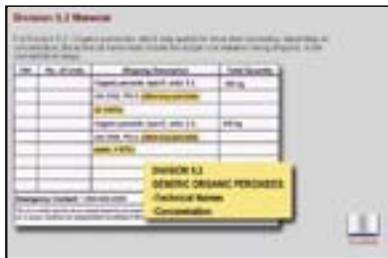
Instructions: Select the best answer from the four choices provided.

The letter “G” identifies proper shipping names for which one or more technical names of the hazardous material must be entered in _____ in association with the basic description.

- A. quotes
- B. brackets
- C. parentheses
- D. columns

Correct Answer: C parentheses

28



For Division 5.2 - Organic peroxides, which may qualify for more than one listing, depending on concentration, the technical name must include the actual concentration being shipped, or the concentration range.

29



An n.o.s. entry that describes a mixture or solution of two or more hazardous materials must include the technical names of at least two of the components contributing most predominantly to the hazards of the mixture or solution.

Example: Flammable liquids, corrosive, n.o.s., (contains Methanol, Potassium hydroxide), 3, UN 2924, PG II.

Quick Review #10

Instructions: Select the correct answer from the choices provided.

An n.o.s. entry that describes a mixture or solution of three or more hazardous materials must include the technical names of at least the two components most predominant to the hazards of the material.

- A. True
- B. False

Correct Answer: B False

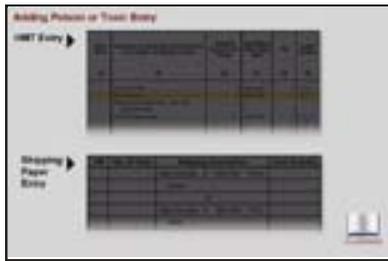
30

When the basic description of a marine pollutant does not identify the component that makes the material a marine pollutant, the name of the component(s) must appear in parentheses in association with the basic description. The words “Marine Pollutant” must also be entered in association with the basic description.

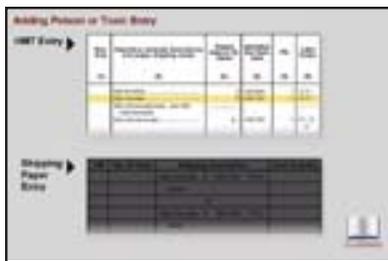
31

Poisonous or toxic materials in Packing Group I or II are subject to additional description requirements in 172.203(m). When the basic description of a poisonous or toxic liquid or solid material does not identify the specific constituent by that name, the technical name of the constituent must appear on the shipping paper in association with or immediately following the basic description as shown in this example.

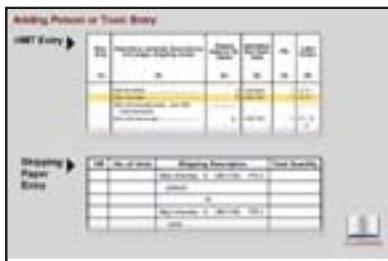
32



If the material meets the definition of a poison or toxic, in Packing Group I or II, and this is not indicated by the proper shipping name or the hazard class, the word “Poison” or “Toxic” must be entered on the shipping paper in association with the shipping description.



Find the shipping name, Allyl chloride in the HMT, 172.101. Allyl chloride is a proper shipping name. Look in Column 3. The hazard class is 3 (Flammable liquid). Look in Column 5. The packing group is PG I. Now look in Column 6. The material is required to be labeled FLAMMABLE LIQUID and POISON or TOXIC.



This means that the subsidiary hazard is poison or toxic and is not indicated by the proper shipping name or the hazard class. Therefore, the word “Poison” or “Toxic” must be entered on the shipping paper in association with the shipping description.

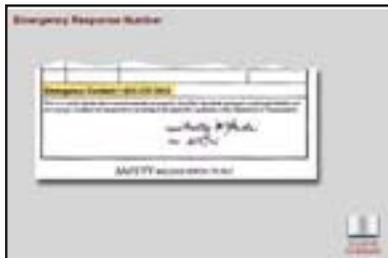
33



For a material meeting the “poisonous or toxic by inhalation” criteria, the words “Poison-Inhalation Hazard” or “Toxic-Inhalation Hazard” and the appropriate hazard zone shall be entered on the shipping paper immediately following the shipping description. Hazard Zones consist of Zone A, Zone B, Zone C, or Zone D for gases, and Zone A or Zone B for liquids. Except for molten sulfur or molten aluminum, if a liquid material in a package meets the definition of an elevated temperature material in 171.8 and the shipping name does not disclose the fact that it is an elevated temperature material, the word “HOT” must immediately precede the proper shipping name on the shipping paper.

For self-reactive materials (Division 4.1) and organic peroxides (Division 5.2), the description on the shipping paper must include additional information, as appropriate, which is defined in 172.203(o)(1-3).

34



An emergency response telephone number must be entered on the shipping paper immediately after each hazardous material description; or if the telephone number applies to all hazardous materials listed on the shipping paper, entered only once, in a clearly visible location, and with an indication that the number is for emergency response information.

35



The emergency response telephone number must be monitored at all times while hazardous materials are in transportation, including storage incidental to transportation. The contact person must either be knowledgeable of: hazardous characteristics, emergency response information, and incident mitigation information for the hazardous material(s) listed on the shipping paper, or have immediate access to someone who has that knowledge. The emergency response telephone number must be that of the shipper, an agency, or organization capable of, and accepting responsibility for, providing current information.

36



Emergency response documents must contain information about the basic description and technical name of the hazardous material as required by 172.202 and 172.203(k); immediate hazards to health; the risks of fire and explosion; the immediate precautions to be taken in the event of an incident; the immediate methods for handling fires; initial methods for handling spills or leaks in the absence of fire, and preliminary first aid measures.

37



The required emergency response information must be available for use away from the package of hazardous materials. It must be printed in English and present in one of these formats: on the shipping paper; in a document, such as a material safety data sheet (MSDS), along with the shipping paper; or in a separate document, such as an emergency response guidance document, that cross-references the description of the hazardous materials on the shipping paper.

38



Except for aircraft and vessel shipments, each hazardous materials carrier must maintain and carry the emergency response information in the same manner as the shipping paper. The information must be immediately accessible to the transport vehicle operator or crew. For aircraft, the emergency response information must be maintained in the same manner as the notification to the pilot-in-command. For vessel shipments, the information must be maintained in the same manner as the dangerous cargo manifest. Operators of facilities such as loading docks and warehouses must maintain information on hazardous materials. This information must be immediately accessible in the event of an incident involving hazardous materials.

Quick Review #11

Your task is to complete these statements based on the information presented in this topic. Complete each of the statements by filling in the term that properly completes the statement.

ACROSS

1. For hazardous material shipments, an _____ response telephone number is required on the shipping paper.
2. A material that meets the poisonous or toxic by inhalation criteria must be identified on the shipping paper with either _____ Hazard or Toxic – Inhalation Hazard and the appropriate hazard zone immediately following the shipping description.
3. If not identified in the proper shipping name, the components making the material a marine _____ must be entered on the shipping paper, in association with the basic description.
4. The emergency response telephone number must be monitored at all times while the materials are in _____, including storage incidental to transportation.

DOWN

1. If the proper shipping name or the hazard class or division does not identify a liquid or solid as a PG I or PG II poison or toxic, then the word _____ or “toxic” must be added to the shipping description.
2. The number may be monitored and maintained by the shipper or an agency or organization capable of, and accepting _____ for providing the required information.
3. Information about hazardous materials and the necessary immediate _____, and actions to take in the event of an incident are required for emergency response personnel. This information must be available, in English, away from the package.

Correct Answers:**ACROSS**

1. emergency
2. poison-inhalation
3. pollutant
4. transportation

DOWN

1. poison
2. responsibility
3. precautions

39



Each carrier must instruct the operator of a motor vehicle, train, aircraft or vessel to contact the carrier in the event of an incident.



If a transport vehicle contains hazardous material for which a shipping paper is required and the vehicle is separated from its source of power and parked at a location other than a facility operated by the consignor or consignee, or a facility subject, the carrier shall mark the transport vehicle with the telephone number of the motor carrier or the shipping papers and emergency response information must be readily available on the transport vehicle. These requirements do not apply to an unattended motor vehicle separated from its source of power when the motor vehicle is marked on an orange panel, a placard, or a plain white square-on-point configuration with the identification number of each hazardous material loaded therein, and the marking or placard is visible on the outside of the motor vehicle.

Quick Review #12

Instructions: Select the best answer from the four choices provided.

Highway, aircraft and vessel carriers must carry the required emergency response information in the same manner as required for _____, notification to pilot in command, and dangerous cargo manifests, respectively. Facility operators must have information immediately accessible in the event of an emergency.

- A. shipping papers
- B. registration papers
- C. manifests
- D. operator's certificate

Correct Answer: A shipping papers

40



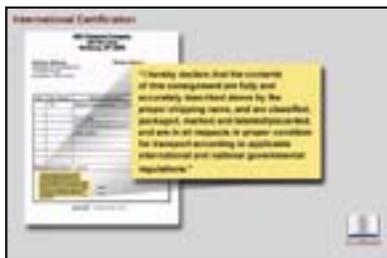
The last shipping paper entry is the certification that the hazardous materials are properly offered for transportation according to the HMR. The regulations provide three certification methods for the shipping paper. Click on the buttons to learn about each method.

41



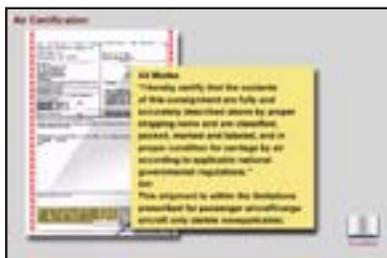
The certification statement found in 172.204(a)(1) is used for domestic transportation only and must be shown word for word.

42



The certification statement found in 172.204(a)(2) should be used for international transportation and may be used for domestic transportation, also.

43



The certification statement found in 172.204(c)(1) is used primarily for air shipments, but may be used in all modes. For air shipments, add the statement, "This shipment is within the limitations prescribed for passenger aircraft/cargo aircraft only;" delete the type of aircraft that does not apply; and provide two copies of the certification.

Quick Review #13

Instructions: Select the correct answer from the choices provided.

Section 172.204(a) requires the shipper to provide on the shipping paper a written, signed certification that the hazardous materials are properly prepared for transportation.

- A. True
- B. False

Correct Answer: A True

44



Shipping paper certification is required for all hazardous waste shipments, and if a hazardous material is reshipped or transferred from one carrier to another.

45



Only certain radioactive materials may be transported by passenger carrying aircraft. The person offering the shipment must sign a printed statement that the material is intended for research or medical diagnosis or treatment. Do not accept the shipments for passenger carrying aircraft unless the shipping paper has this signed certification.

Quick Review #14

Instructions: Select the best answer from the four choices provided.

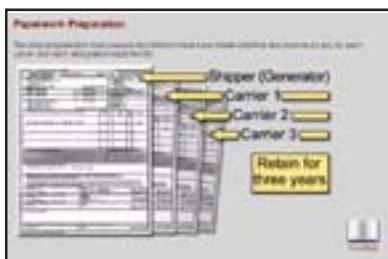
For radioactive materials shipped by passenger carrying aircraft, the shipping paper must state that the material is intended for _____ or medical diagnosis or treatment. If you are a carrier, do not accept the radioactive materials for shipment on passenger carrying aircraft unless the shipping paper has a signed certification.

- A. education
- B. research
- C. study
- D. analysis

Correct Answer: B research

46

For all hazardous waste shipments, a Uniform Hazardous Waste Manifest (UHW) must be prepared in accordance with USDOT and Environmental Protection Agency (EPA) regulations. The original copy of the manifest must be dated, signed by hand, and carried in the same manner as a shipping paper. The Uniform Hazardous Waste Manifest meets the USDOT's shipping paper requirements, provided it contains all the information required by the USDOT and the EPA.

47

The waste shipper, each waste carrier, and the waste facility operator must retain a copy of the UHW for three years from date the waste was accepted by the initial carrier. If you are a shipper, be sure the accompanying paperwork is accurate and contains all required information before you offer a shipment of hazardous material. If you are a carrier, verify the information on the shipping paper. If the paperwork is not correct or the packages are not intact, do not accept the shipment.

Quick Review #15

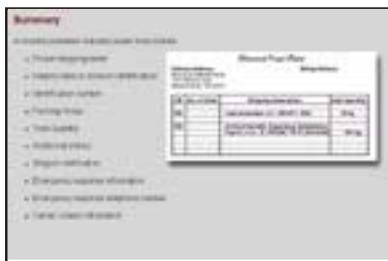
Instructions: Select the best answer from the four choices provided.

All hazardous waste shipments must be accompanied by a Uniform Hazardous Waste Manifest. This Uniform Hazardous Waste Manifest must be retained by the waste shipper, waste carriers, and waste facility operator for _____ years from the date the waste was accepted by the initial carrier.

- A. two
- B. three
- C. four
- D. five

Correct Answer: B three

48



Remember, shipments that comply with the HMR make transportation of hazardous materials safer for everyone, including you.

Shipping Paper Summary

This module assumes that materials used in the exercises of student activity projects, have already been classified by the manufacturers or shippers.

To prepare a shipping paper, include the following information:

Proper Shipping Name	172.202(a)(1)
Hazard Class or Division	172.202(a)(2)
ID No	172.202(a)(3)
Packing Group (PG)	172.202(a)(4)
Total Quantity and Unit of Measurement	172.202(a)(5), (c)
Required Additional Information	172.203(a-o)
Shipper Certification	172.204 (a)-(d)
Emergency Contact Telephone Number	172.201(d), 172.604
Emergency Response Information	172.602

Compliance Checklist

Shipping Paper	Violation	Reference
1. Shipping Paper		172.200(a)
2. Contents		
(a) Order/Color/"x"		172.201(a)(1)
(b) Legible English		172.201(a)(2)
3. Shipping Name		172.202(a)(1)
4. Hazard Class or Division		172.202(a)(2)
5. Identification Number		172.202(a)(3)
6. Packing Group		172.202(a)(4)
7. Total Quantity/Unit of Measurement		172.202(a)(5) & (c)
8. Sequence		172.202(b)
9. Additional Descriptions		
(a) Exemption		172.203(a)
(b) Limited Quantity		172.203(b)
(c) Hazardous Substance		172.203(c)
(d) Radioactive Materials		172.203(d)
(e) Empty Packaging		172.203(e)
(f) Air Requirements		172.203(f)
(g) Rail Requirements		172.203(g)
(h) Highway Requirements		172.203(h)
(i) Water Requirements		172.203(i)
(j) Dangerous When Wet		172.203(j)
(k) Technical Names and N.O.S.		172.203(k)
(l) Marine Pollutant		172.203(l)
(m) Poisonous Materials (toxic)		172.203(m)
(n) Elevated Temperature		172.203(n)
(o) Organic Peroxides and Self Reactive Materials		172.203(b)
10. (a) Emergency Response Information		172.602(a)-(c)
(b) Emergency Telephone Number		172.201(d), 172.604(a)
11. Hazardous Waste Manifest		172.205(a)
Signatures – Originals		172.205(c)(1)&(2)
Signatures – Copies		172.205(d)

Shipper Certification	Violation	Reference
1. Basic Paragraph		
a. General Requirements		172.204(a)(1)or(2)
b. Air Certification		172.204(c)
2. Signature		172.204(d)

Module 2 Test

1. The required basic description on a shipping paper must be in the following sequence _____.
 - A. hazard class or division, proper shipping name, ID No., packing group
 - B. total quantity, ID No., PG, hazard class or division, proper shipping name
 - C. proper shipping name, ID No., PG, hazard class or division
 - D. proper shipping name, hazard class or division, ID No., PG, total quantity

2. Which is the correct additional entry for a shipment of Anhydrous ammonia containing 0.2% water transported in an MC 331 cargo tank constructed of quenched and tempered (Q and T) steel?
 - A. “Noncorrosive”
 - B. “Not for Q and T Tanks”
 - C. “0.2 PERCENT WATER”
 - D. “Corrosive Hazard”

3. Each person who offers a hazardous material to an aircraft operator for air transportation shall provide _____.
 - A. three (3) copies of the required certification
 - B. two (2) copies of the required certification
 - C. one (1) copies of the required certification
 - D. four (4) copies of the required certification

4. A hazardous material meeting the inhalation toxicity criteria must be identified with the notation _____.
 - A. Haz/Mat
 - B. Poison-Inhalation Hazard
 - C. Zone A, B, C, or D (as appropriate)
 - D. b and c

5. The shipper certification for other than a hazardous waste may be signed _____.
 - A. manually
 - B. by typewriter or other mechanical means
 - C. a signature is not required
 - D. a and b

6. Which of the following is a proper shipping description for a 1-liter package containing Nitrating acid, less than 40%, a hazard class 8 (corrosive) material, being transported by aircraft?

- A. 8, NA 1796, Nitrating acid, PG II, 1, L, Cargo Aircraft Only
- B. 1, L, Nitrating acid, 8, NA 1796, PG II, Cargo Aircraft Only
- C. 1, L, Nitrating acid mixtures, 8, UN 1796, PG II, Cargo Aircraft Only
- D. Nitrating acid mixtures, 8, UN 1826, PG II, Cargo Aircraft Only, 1 L

7. If a hazardous material described by a proper shipping name listed in 172.203(k) is a mixture or solution of two or more hazardous materials, the technical names of at least _____ components most predominantly contributing to the hazard(s) of the material must be shown.

- A. one
- B. two
- C. three
- D. all that are present

8. Except for hazardous waste, a shipper certification is not required for a hazardous material that is _____.

- A. transported in a cargo tank supplied by the carrier
- B. transported by the shipper as a private carrier, unless re-shipped or transferred to another carrier
- C. transported as a Limited Quantity
- D. a and b

9. Emergency response information, containing the information required by 172.602(a), can be presented on _____.

- A. a shipping paper
- B. a material safety data sheet
- C. a shipping paper and an emergency response guidance manual
- D. any of the above

10. Which of the following basic descriptions of hazardous materials is correct?

- A. Corrosive liquids, n.o.s. (contains Caprylyl chloride), 8, UN 1760, PG II, 65 L
- B. Corrosive liquids, n.o.s., 8, UN 1760, PG II (Caprylyl chloride), 65 L
- C. Corrosive liquids, n.o.s., (Caprylyl chloride), 8, UN1760, PG II, 65 L
- D. All of the above

11. For shipments by water, which of the following must be added to the shipping paper description?
- A. The type of packages
 - B. The number of each type
 - C. The gross weight of each type of package
 - D. All of the above
12. When a hazardous material and a material not subject to the regulations are entered on the same document, the hazardous material(s) entries must be _____.
- A. entered first
 - B. highlighted or entered in a contrasting color
 - C. identified by an “X” in the column captioned HM
 - D. any of the above
13. The shipping paper for a shipment of hazardous materials by water must contain _____.
- A. the name of the carrier
 - B. the name of the shipper
 - C. the name of the port of export
 - D. the name of the first mate
14. Except for shipments of hazardous waste, a shipping paper must consist of _____.
- A. a specific form prescribed by the USDOT
 - B. one (1) original and three (3) copies
 - C. no specific form as long as the required information is present
 - D. a specific form prescribed by the Environmental Protection Agency (EPA)
15. When a hazardous material is transported in a rail car requiring placarding, the shipping paper must bear the notation _____.
- A. “DO NOT LOAD NEXT TO A TANK CAR”
 - B. “PLACARDED”, followed by the name of the required placard
 - C. “DANGEROUS, NO SMOKING”
 - D. None of the above

16. The shipper certification found in 172.204(a) (1) may be used for _____.

- A. highway transportation
- B. aircraft transportation
- C. water and rail transportation
- D. all of the above

17. Which of the following is a proper shipping description for a 1-liter package of Oleum with 40% Sulfur Trioxide, a Class 8 material, being transported by truck?

- A. 8, Sulfuric acid fuming, NA 1831, PG I, Poison, 1 liter
- B. 1 L, Sulfuric acid fuming, 8, UN 1831, PG I, Poison Inhalation Hazard, Zone B
- C. Oleum, 8, UN 1831, PG I, 1 L
- D. None of the above

18. In addition to the basic description required by 172.202, additional descriptions would be required for which of the following?

- A. A hazardous material package offered for air transportation and authorized to be transported aboard passenger carrying aircraft
- B. A shipment of hazardous material packaged and offered as “Limited Quantity”
- C. A shipment of radioactive materials
- D. b and c

19. Shipping descriptions of hazardous materials required to be shown on shipping papers must be _____.

- A. in the language of the consignee country for international shipments
- B. in English for all shipments
- C. in English for domestic shipments only
- D. None of the above

20. The emergency response telephone number required to be entered on the shipping paper must be that of _____.

- A. the fire department
- B. the shipper
- C. an agency that accepts responsibility and can provide current information
- D. b or c

21. Unless excepted, the shipping paper offered by a shipper for a shipment of hazardous materials must contain _____.

- A. the date when the shipment was offered
- B. the initials of the person accepting the shipment
- C. a certification signed by the shipper
- D. a USDOT registration number for hazardous materials

22. The additional entry “Cargo Aircraft Only” must be entered on the shipping paper following the basic description when _____.

- A. a hazardous material is prohibited aboard a domestic aircraft
- B. a hazardous material is authorized aboard a passenger-carrying aircraft
- C. a hazardous material is forbidden aboard a passenger-carrying aircraft
- D. a hazardous material is intended for medical use only

23. What letters are to be entered on the shipping paper for a hazardous substance?

- A. HM
- B. RQ
- C. HS
- D. FL

Module 2 Test Answers

Question	Answer/Explanation	49 CFR Reference
1.	D. proper shipping name, hazard class or division, ID No., PG, total quantity. Answers A, B, and C are incorrect because the entries are not in sequence.	172.202(b)
2.	C. “0.2 PERCENT WATER” Answer A is incorrect because the entry is only required for liquefied petroleum gas. - 172.203(h)(2)(i) Answer B is incorrect because the entry is only required for cargo tanks containing anhydrous ammonia with less than 0.2 percent water by weight. – 172.203(h)(1)(i-ii) Answer D is incorrect because there is no requirement for this entry to be added to the shipping paper.	172.203(h)(1)
3.	B. two (2) copies of the required certification. A, C, and D are incorrect.	172.204(c)(2)
4.	D b and c. Answer A is incorrect because there is no requirement for this entry to be added to the shipping paper description.	172.203(m)(3)
5.	D. a and b. Answer C is incorrect because a signature is required for each certification.	172.204(d)(2)
6.	C. 1, L, Nitrating acid mixtures, 8, UN 1796, PG II, Cargo Aircraft Only. Answers A and B are not correct because they are out of sequence, and the shipping name is not correct. 172.202(a)(1) and (b). Answer D is not correct because an incorrect ID No. is used. It should be UN 1796.	172.202(a)(2)
7.	B. two.	172.203(k)(2)8.

8. D. a and b. Exceptions to shipping paper certification are provided in 172.204(b). Certification exceptions for shipments identified as limited quantities are not provided.
9. D. any of the above. Either A, B, or C may be used. 172.602(b)(3)
10. D. All of the above. All may be used to describe hazardous material.
172.202(d); 172.203(k)
11. D. All of the above. All must be added to the shipping paper, A, B, and C.
172.203(i)
12. D. any of the above. Any of the options A, B, or C may be used to describe hazardous materials. 172.201(a)(1)
13. B. the name of the shipper. Answers A, C, and D are incorrect because there is no requirement for these entries to be included on the shipping paper.
172.201(b)
14. C. no specific form as long as the required information is present. Answer A is incorrect because there is no prescribed USDOT form. Answer B is incorrect because there is no requirement for an original and three (3) copies of a shipping paper. Answer D is incorrect because the EPA only requires a specific form for hazardous waste. 171.8
15. D. None of the above. There is no requirement for the entries in A, B, and C to be added to the shipping paper. 172.203(g)
16. D. all of the above. The certification in 172.204(a)(1) may be used in all modes.
17. B. 1 L, Sulfuric acid fuming, 8, un 1831, PG I, Poison Inhalation Hazard, Zone B. Answer A is not correct because it is out of sequence – 172.202(b). Answer C is not correct because the shipping name used is in italics in the HMT, and is, therefore, not a proper shipping name. 172.202(a)(1-2)

18. D. b and c. Answer A is not correct because the shipment is authorized for passenger-carrying aircraft and no additional entries are required.
172.203(b); 172.203(d)
19. B. in English for all shipments. All required shipping descriptions must be printed in English, regardless of origin or destination. 172.201(a)(2)
20. D. b or c. Answer A is incorrect because the telephone number of the shipper or an agency capable of and accepting responsibility for the required information must be entered on the shipping paper. 172.604(b)
21. C. a certification signed by the shipper. Unless excepted, a shipper certification is required to be printed on a shipping paper in the manner prescribed. Answers A, B, and D are not required.
22. C. a hazardous material is forbidden aboard a passenger-carrying aircraft. Answer A is incorrect because, if prohibited, the material may not be offered or transported in any case. Answer B is incorrect because the material may be transported on a passenger carrying aircraft; therefore, the “Cargo Aircraft Only” restriction would not apply. Answer D is incorrect because the “Cargo Aircraft Only” notation does not restrict material to medical use. 172.203(j)
23. B. RQ. The letters RQ mean that the package contains a reportable quantity (RQ) of a hazardous substance and must be so identified, when required. Answers A, C, and D are not authorized abbreviations.
172.203(c)(2)