

# **Hazardous Materials**

## **Module: NFIRS-7**

### **Objectives**

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After completing the Hazardous Materials Module the students will be able to:

1. Describe when the Hazardous Materials Module is to be used.
  2. Demonstrate how to complete the Hazardous Materials Module and identify appropriate other modules, given the scenario of a hypothetical incident.
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## **Pretest #7 - Hazardous Materials (HazMat) Module**

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1. The Basic Module must be completed if the Hazardous Materials Module is completed.
  - (a) True.
  - (b) False.
  
2. The Hazardous Materials Module is a required NFIRS module.
  - (a) True.
  - (b) False.
  
3. The number of civilians injured as a result of contact or exposure to a hazardous material is recorded as Casualties on the Basic Module.
  - (a) True.
  - (b) False.
  
4. The Hazardous Materials Module can be used to record more than one hazardous material involved at the incident.
  - (a) True.
  - (b) False.
  
5. The reportable HazMat incident can be any incident type.
  - (a) True.
  - (b) False.

## Using the Hazardous Materials Module

Use the optional Hazardous Materials Module when the Basic Module (Block H<sub>3</sub> – Hazardous Materials Release) indicates “other” for hazardous materials. Its purpose is to document reportable HazMat incidents. A reportable HazMat incident is one in which specialized HazMat resources were dispatched or used, or should have been dispatched or used, for assessing, mitigating, or managing the situation. The Hazardous Materials Module also is used when an incident involves a release or spill of hazardous materials that exceeds 55 gallons.

*NOTE: Nothing in the NFIRS reporting system definition is meant to alter compliance with State or local HazMat reporting requirements. In States with mandatory reporting, the State program manager determines which optional modules (EMS, Hazardous Materials, Wildland, etc.) are to be submitted to the State.*

The Hazardous Materials Module permits hazardous materials incidents to be profiled in depth for incident management analysis and response-strategy development. It collects relevant information on:

- hazardous materials identification;
- container information;
- release amounts and location;
- actions taken; and
- mitigating factors.

If more than one hazardous material is involved, complete one module for each HazMat released. Note that the term release is intended to include a spill.

### Section A: FDID, State, Incident Number, Incident Date, Exposure Number, HazMat Number

This information is essentially the same as the information in the Basic Module with the exception of the HazMat Number (Haz No.). As noted above, if more than one HazMat was involved, complete one module for each HazMat released.

A	FDID	State	MM	DD	YYYY	Incident Date	Station	Incident Number	Exposure	Haz No.	<input type="checkbox"/> Delete	NFIRS-7 HazMat
	★	★	★	★	★	★	★	★	★	★	<input type="checkbox"/> Change	

Sequentially number each HazMat released in the field HazMat Number in [Section A](#). Begin with “01” for the first chemical, “02” for the second, and so forth. In an automated system, some systems may allow you to enter data one time and it will automatically fill in all fields where that information is required in Section A. When using hard copies, you will have to enter the Section A information for every module.

## Section B: HazMat ID

<b>B</b>	HazMat ID	_____	_____	_____	Chemical Name ☆	_____
		UN Number	DOT Hazard Classification	CAS Registration Number		

The purpose of **Section B** is to identify the specific hazardous materials involved in an incident as accurately as possible. Several different identification systems have been developed that can aid fire department personnel with identifying hazardous materials.

- UN Number (United Nations Standards for the Identification of Hazardous Materials);
- DOT Hazard Classification (Department of Transportation Classification);
- CAS Registration Number (Chemical Abstract Service Classification); and
- Chemical Name.

Not all of these systems are needed to identify the hazardous materials. In fact, in an automated NFIRS system, many of these data elements are cross-referenced in the database. By entering one piece of information, the system will automatically fill some or all of the other HazMat identification fields.

**Example:**

If you enter the CAS Registration Number, the NFIRS Client Tool Software System will fill in all other HazMat ID fields. No further lookup is necessary.

Chemicals are listed in the U.S. Fire Administration (USFA) publication *Hazardous Materials Guide for First Responders*.

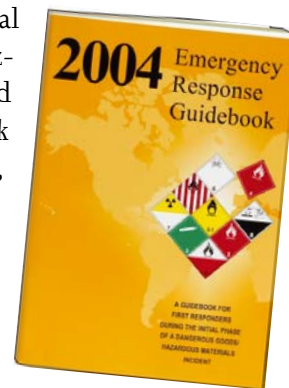
In some cases, it may take more than one piece of information to identify a hazardous material accurately.

**Example:**

The UN Number does not necessarily identify a specific chemical. To accurately identify the chemical, it must be used in conjunction with the chemical or trade name for that specific chemical.

The **UN Number** is a four-digit number assigned to the hazardous material that conforms to United Nations (UN) standards for the identification of hazardous materials in international transportation. These numbers may be found in a variety of reference materials. The *North American Emergency Response Guidebook* (NAERG) published by the Research and Special Programs Administration, U.S. Department of Transportation (DOT) is one reference.

The *Hazardous Materials Guide for First Responders* published by the U.S. Fire Administration is another important reference document. In some cases, a single UN Number will be assigned to several materials with similar properties. Not all hazardous materials have been assigned UN Numbers.



The primary hazards associated with various hazardous materials categories are described by the **DOT Hazard Classification System**. Hazardous materials warnings should appear on placards or labels on the materials during transportation. Since many materials have multiple hazards, the DOT

hazard classification may not describe all of the potential hazards faced by emergency responders at a HazMat incident.

The DOT hazard classification consists of a single digit hazard-class code followed by a decimal point and a single digit code for the division. For the purpose of documentation, this two-part hazard class/division code has been converted to a two-digit code. The proper entry in this field is the two-digit code that corresponds with the hazard classification and division as found on a placard or label of the hazardous material.

## DOT Hazard Classifications Codes

### Class 1 – Explosives

11	Division 1.1	Explosives with mass explosion hazard
12	Division 1.2	Explosives with projectile hazard
13	Division 1.3	Explosives with predominant fire hazard
14	Division 1.4	Explosives with no significant blast
15	Division 1.5	Very insensitive explosives; blasting
16	Division 1.6	Extremely insensitive detonating articles

### Class 2 – Gases

21	Division 2.1	Flammable gases
22	Division 2.2	Non-flammable
23	Division 2.3	Gases toxic by inhalation
24	Division 2.4	Corrosive gases (Canada)

### Class 3 – Flammable/Combustible Liquids

30	Flammable/combustible liquids
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### Class 4 – Flammable Solids

41	Division 4.1	Flammable solids
42	Division 4.2	Spontaneously combustible materials
43	Division 4.3	Dangerous when wet materials

### Class 5 – Oxidizers and Organic peroxides

51	Division 5.1	Oxidizers
52	Division 5.2	Organic peroxides

### Class 6 – Toxic material and Infectious Substances

61	Division 6.1	Toxic materials
62	Division 6.2	Infectious substances

### Class 7 – Radioactive Materials

70	Radioactive materials
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### Class 8 – Corrosive Materials

80	Corrosive materials
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### Class 9 – Miscellaneous Dangerous Goods

91	Division 9.1	Miscellaneous dangerous goods (Canada)
92	Division 9.2	Environmentally hazardous substances (Canada)
93	Division 9.3	Dangerous wastes (Canada)

By itself, the DOT hazard class and division does not identify a specific chemical. To do so, it must appear in conjunction with the CAS Number or chemical or trade name.

The **CAS Registration Number** is the identification number assigned to a chemical by the Chemical Abstract Service (CAS) of the Chemical Abstract Society. This number may be found in reference materials, on Material Safety Data Sheets (MSDS), and on some product labels. Not all hazardous materials have an assigned CAS Number.

In an automated system, entry of the CAS Registration Number should fill in all other HazMat ID fields without any further lookup.

The **Chemical Name** is the standard chemical or trade name by which the hazardous material is known commonly. Products from different manufacturers with similar chemical ingredients may have different trade names.

The proper entry in this field is the chemical or trade name of the hazardous material as shown on the MSDS, product label, packaging, or container.

**Example:**

A common herbicide used for household applications may be entered by the trade name “Weed-B-Gone™,” or by the chemical name “2,4-Dichlorophenoxyacetic acid (2-4D).”

## Section C: Container Information

**Section C** identifies the type or configuration of the container used to transport and/or store the hazardous material and the amount of material the container was designed to hold. Complete information on the types of containers involved in HazMat incidents will provide guidance to regulators that establish container design requirements, and will aid in prevention and code development efforts.

**C1** Container Type  None

Container Type

**More hazardous materials? Use additional sheets.**

**Block C1.** Container Type, refers to the type or configuration of the container, equipment, or facility used to transport and/or store the hazardous material. Enter the two-digit code for the corresponding container type from the list provided in the NFIRS Handbook or the Complete Reference Guide (CRG).

**C2** Estimated Container Capacity

, ,   
 Capacity: by volume or weight

**C3** Units: Capacity Check one box

VOLUME		WEIGHT	
11	<input type="checkbox"/> Ounces	21	<input type="checkbox"/> Ounces
12	<input type="checkbox"/> Gallons	22	<input type="checkbox"/> Pounds
13	<input type="checkbox"/> Barrels: 42 gal.	23	<input type="checkbox"/> Grams
14	<input type="checkbox"/> Liters	24	<input type="checkbox"/> Kilograms
15	<input type="checkbox"/> Cubic feet	<b>MICRO UNITS</b>	
16	<input type="checkbox"/> Cubic meters	<input style="width: 30px; height: 20px;" type="text"/> Enter Code	

Enter the estimated amount of material the container was designed to hold, by volume or weight, in **Block C<sub>2</sub>**. Report the container capacity as two data elements. One is a numeric entry and expresses quantity. The other defines the unit of measure—either volume or weight. Check the appropriate box in **Block C<sub>3</sub>**. Both must be reported for the data to be meaningful.

## Section D: Estimated Release

<b>D<sub>1</sub></b>	<b>Estimated Amount Released</b> ☆	
	<input style="width: 100px;" type="text"/> , <input style="width: 100px;" type="text"/> , <input style="width: 100px;" type="text"/>	
	Amount released: by volume or weight	
<b>D<sub>2</sub></b>	<b>Units: Released</b> <span style="float: right; font-size: small;">Check one box</span>	
	<b>VOLUME</b>	<b>WEIGHT</b>
11	<input type="checkbox"/> Ounces	21 <input type="checkbox"/> Ounces
12	<input type="checkbox"/> Gallons	22 <input type="checkbox"/> Pounds
13	<input type="checkbox"/> Barrels: 42 gal.	23 <input type="checkbox"/> Grams
14	<input type="checkbox"/> Liters	24 <input type="checkbox"/> Kilograms
15	<input type="checkbox"/> Cubic feet	<b>MICRO UNITS</b>
16	<input type="checkbox"/> Cubic meters	<input style="width: 50px;" type="text"/> Enter Code

The quantity of hazardous materials released also is reported as two data elements. Again, both must be reported for the data to be meaningful. Express the estimated amount of material released from a container—by volume or weight—as a whole number in **Block D<sub>1</sub>**.

Mark one box in **Block D<sub>2</sub>** to identify the appropriate unit of measure. Information on the amount of material released provides an important measure of the magnitude of the hazardous materials release problem.

## Section E: Physical State When Released and Released Into

<b>E<sub>1</sub></b>	<b>Physical State When Released</b>
1	<input type="checkbox"/> Solid
2	<input type="checkbox"/> Liquid
3	<input type="checkbox"/> Gas
U	<input type="checkbox"/> Undetermined

Record the simple physical State of the material (i.e., solid, liquid, gas, or undetermined) during release or when it became hazardous by marking one box in **Block E<sub>1</sub>**.

<b>E<sub>2</sub></b>	<b>Released Into</b>
	<input style="width: 100px;" type="text"/>
	Released into



The purpose of **Block E<sub>2</sub>** is to provide information on the general environmental impact and, when used in conjunction with other data elements, how extensive that impact is. This field identifies the general region(s) of the environment contaminated by the hazardous material after its release.

### Released Into

Enter the code that best describes the environment contaminated by the hazardous material.

1. Air
2. Water
3. Ground
4. Water and ground
5. Air and ground
6. Water and air
7. Air, water, and ground
8. Confined, no environmental impact - not released into air, water, ground

NOTE: If more than one hazardous material is involved in the incident, the remainder of the module is completed only for the first (most significant) material involved.

## Section F: Released From and Population Density

**F<sub>1</sub> Released From**  
 Check all applicable boxes

Below grade

1  Inside/on structure  
     └───┬───┘ Story of release

2  Outside of structure

Record physical location from where the hazardous material was released in **Block F<sub>1</sub>**. Was it below grade? Was it inside or outside a structure? If the release was inside (or on) a structure, record which story it occurred on?

**F<sub>2</sub> Population Density**

1  Urban

2  Suburban

3  Rural

Provide a general description of the population density in the area adjacent to the hazardous materials release in **Block F<sub>2</sub>**. Was the release in an urban, suburban, or rural area?

## Section G: Area Affected, Area Evacuated, Estimated Number of People Evacuated, and Estimated Number of Buildings Evacuated

Information on the area affected by a hazardous materials release, when used in conjunction with other data elements, will assist in understanding the magnitude of the release. In turn, this information can be used to guide future training and incident management efforts.

<b>G<sub>1</sub> Area Affected</b>	
1	<input type="checkbox"/> Square feet
2	<input type="checkbox"/> Blocks
3	<input type="checkbox"/> Square miles
<input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Enter measurement	

**Block G<sub>1</sub>** records the size of the area or space directly affected by the hazardous material release. Report the area affected as two data elements. The first defines the unit of measurement (square feet, blocks, or square miles). The second is a numeric entry that expresses the actual measurement. Both must be reported for the data to be meaningful.

<b>G<sub>2</sub> Area Evacuated</b>		<input type="checkbox"/> None
1	<input type="checkbox"/> Square feet	<input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Enter measurement
2	<input type="checkbox"/> Blocks	
3	<input type="checkbox"/> Square miles	

**Block G<sub>2</sub>**, Area Evacuated, records the amount of area or space evacuated as a result of the hazardous material release or potential release.

Block G<sub>2</sub> also is reported as two data elements. The first defines the unit of measurement and the second is the numeric expression of the measurement. Again, both entries must be made for the data to be meaningful.

<b>G<sub>3</sub> Estimated Number of People Evacuated</b>	
<input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/>	

**Block G<sub>3</sub>** documents the estimated number of people evacuated due to the hazardous material release or potential release.

<b>G<sub>4</sub> Estimated Number of Buildings Evacuated</b>		<input type="checkbox"/> None
<input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/>		

**Block G<sub>4</sub>** notes the estimate number of the buildings evacuated as a result of the hazardous material release or potential release.

## Section H: HazMat Actions Taken

H HazMat Actions Taken	
Enter up to three actions taken	
<input type="checkbox"/>	<input type="text"/>
Primary action taken (1)	
<input type="checkbox"/>	<input type="text"/>
Additional action taken (2)	
<input type="checkbox"/>	<input type="text"/>
Additional action taken (3)	

There are particular actions taken at a hazardous material release incident scene by personnel specifically trained and equipped to mitigate the hazards that might arise. In this section, you can document up to three of the most significant HazMat actions taken.

*NOTE: Actions taken by fire service personnel who are not specifically trained and equipped to mitigate hazardous material incidents are recorded in the Basic Module.*

## Section I: Fire or Explosion Involved With a Release

I If fire or explosion is involved with a release, which occurred first?	
1	<input type="checkbox"/> Ignition      U <input type="checkbox"/> Undetermined
2	<input type="checkbox"/> Release

The purpose of this section is to collect information on the causal relationship of events occurring in situations involving fire or explosion in conjunction with a hazardous material release. Based on the box marked, it may be possible to show which occurred first—the release or the fire/explosion.

## Section J: Cause of Release

J Cause of Release ☆	
1	<input type="checkbox"/> Intentional
2	<input type="checkbox"/> Unintentional release
3	<input type="checkbox"/> Container/containment failure
4	<input type="checkbox"/> Act of nature
5	<input type="checkbox"/> Cause under investigation
U	<input type="checkbox"/> Cause undetermined after investigation

Use [Section J](#) to document the general cause of the release or threatened release of a hazardous material. Aggregate information on the cause of releases can be used to guide prevention and enforcement efforts.

**Example:**

A hazardous material release resulting from a rusted drum would be recorded as “Container/containment failure.”

## Section K: Factors Contributing to Release

<b>K Factors Contributing to Release</b>			
Enter up to three contributing factors			
<table border="1"> <tr> <td> </td> <td> </td> </tr> </table>			_____
Factor contributing to release (1)			
<table border="1"> <tr> <td> </td> <td> </td> </tr> </table>			_____
Factor contributing to release (2)			
<table border="1"> <tr> <td> </td> <td> </td> </tr> </table>			_____
Factor contributing to release (3)			

Record the factors present at the time and location of the incident that contributed to the release or threatened release in this section. You can enter up to three of the most significant contributing factors and their accompanying codes.

## Section L: Mitigating Factors or Impediments

<b>L Factors Affecting Mitigation</b>		<input type="checkbox"/> None		
Enter up to three factors or impediments that affected the mitigation of the incident				
<table border="1"> <tr> <td> </td> <td> </td> </tr> </table>			_____	
Factor or impediment (1)				
<table border="1"> <tr> <td> </td> <td> </td> </tr> </table>			_____	
Factor or impediment (2)				
<table border="1"> <tr> <td> </td> <td> </td> </tr> </table>			_____	
Factor or impediment (3)				

If there were factors that impeded the fire department's mitigation of the release or threatened release, record the three primary ones present at the time and location of the incident in Section L. This information is of particular importance in cases where delays in mitigating the incident may have contributed to the severity of the incident.

## Section M: Equipment Involved in Release

<b>M Equipment Involved in Release</b>		<input type="checkbox"/> None				
<table border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>					_____	
Equipment involved in release						
Brand	_____					
Model	_____					
Serial #	_____					
Year	<table border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>					

Record data about equipment that either failed, or while working properly, allowed the release or threatened release of hazardous materials in Section M. Write a description on the lines provided and enter a code for the equipment, along with the relevant brand, model, serial number, and year.

NOTE: The code set table used for this data element is the same set that is used for **equipment involved in ignition** in the Fire Module. Use the codes listed for that data element in the CRG.

Information on the type of equipment involved in the release can be used to guide prevention, enforcement, and product design efforts. Specific information on the year, brand, and serial number will assist in product recall efforts.

## Section N: Mobile Property Involved in Release

<b>N</b>		<b>Mobile Property Involved in Release</b>		<input type="checkbox"/> None
Mobile property type				
Mobile property make				
Model			Year	
License plate number				State
DOT number/ ICC number				

Record details about mobile property that either failed, or while working properly, allowed the release or threatened release of hazardous materials here. This information can be used in prevention, enforcement, and product design efforts.

NOTE: Depending on State and local laws, specific documentation on mobile property involved in the release of a hazardous material may assist the fire department in collecting reimbursement from the responsible party for the expenses incurred in mitigating the hazardous materials incident.

The mobile property type refers to property that is designed and constructed to be mobile—movable under its own power or towed. Enter a description and code to clarify the property type. Record the property manufacturer on the line requesting “Mobile Property Make.”

Model refers to the manufacturer’s model name. If one does not exist, use the physical description of the property that is used commonly. Enter the year the property was manufactured. If there is a license plate affixed to the mobile property, note the plate number and State on the next line. The last line is used to enter the number assigned to the commercial carrier by the DOT. That number is generally found stenciled on the mobile property.

## Section O: HazMat Disposition

O HazMat Disposition ☆	
1	<input type="checkbox"/> Completed by fire service only
2	<input type="checkbox"/> Completed w/fire service present
3	<input type="checkbox"/> Released to local agency
4	<input type="checkbox"/> Released to county agency
5	<input type="checkbox"/> Released to state agency
6	<input type="checkbox"/> Released to federal agency
7	<input type="checkbox"/> Released to private agency
8	<input type="checkbox"/> Released to property owner or manager

Use **Section O** to indicate whether the fire department completed the handling of the HazMat incident, or, instead, it was released to another agency. This information helps identify the extent of fire department involvement in resolving the particular HazMat incident. The section also provides information about how frequently other agencies or contractors are used for incident mitigation.

## Section P: HazMat Civilian Casualties

In this section, record the number of civilians killed or injured as a result of their contact with or exposure to hazardous materials that have been spilled or released. This information will provide a concise measure of the scope of human costs associated with HazMat incidents.

P HazMat Civilian Casualties	
Deaths	Injuries
<input type="text"/>	<input type="text"/>

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Make one entry to record the number of civilian deaths and the number of civilian injuries as a result of their contact or exposure to the hazardous material.

The Civilian Fire Casualty Module (NFIRS-4) should **not** be used for this purpose unless the release resulted in a fire and the civilian(s) were injured or killed as a result of the fire. Instead, the optional EMS Module (NFIRS-6) can be used for each non-fire service person killed or injured as a result of contact with or exposure to hazardous materials.

Complete the Fire Service Casualty Module (NFIRS-5) for each fire service member killed or injured as a result of contact with or exposure to hazardous materials.

## **SUMMARY**

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The optional Hazardous Materials Module is used to document reportable HazMat incidents. For an incident to be reportable, it generally requires that specialized HazMat resources either were or should have been dispatched or used. An incident also is reportable when releases or spills of hazardous materials exceed 55 gallons.

The need to comply with State or local HazMat reporting requirements is not altered by the completion of this module.

Accurate data from the Hazardous Materials Module can provide indepth information that can be used for management analysis and also for response-strategy development.

## EXAMPLE: Chlorine Leak Incident

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**Directions:** Read the call information in the example below. Then look at the completed Hazardous Materials Module form. Look at each section and follow along with the proper use of the information as applicable to the Hazardous Materials Module.

On 10/26/02, at 1705 hours, Eau Claire, WI, Department FDID #TR100, Station 001, is called to an incident at an urban commercial building that stores chlorine and other similar products. A vapor has been observed coming from a first-floor window. Engines 1 and 3, HazMat Unit 1, and Battalion 3 are dispatched and arrive on the scene at 1718 hours. The weather is cloudy, with wind conditions at 15 miles per hour, steady, coming from the south. It is 80 degrees Fahrenheit.

The building is almost 25 years old, constructed of noncombustible masonry walls. The roof is metal with composition covering. A 120-unit apartment building is located approximately 500 feet northwest of the commercial building. There are no other exposures.

Units find a chlorine leak is of major proportions. As the fire department personnel arrive, the vapor cloud is growing, affecting an area around the building of two blocks. An employee reports that the seal at the bottom of a full 100-cubic foot chlorine gas tank has failed, and most of the gas has escaped already. Three employees have collapsed in the parking lot, breathing with difficulty, but conscious. EMS Unit 12 was dispatched. Upon arrival at the scene, Unit 12 evacuated the building and moved approximately 50 employees outside three blocks from the building.

The units on the scene conducted a primary search and did not locate any other victims. The HazMat Unit initiated vapor control and control of runoff. The EMS Unit treated the three employees for moderate chlorine gas inhalation and transported them to a local hospital, where they recovered after several days.

The residents of the apartment building were alerted and evacuated.

The gas tank leaked until all gas was released. No other tanks were affected. The incident, reported as # 9900034, was declared secure at 1935.



NFIRS 5.0 Self-Study Program

**A** FDID  State  Incident Date    Station  Incident Number  Exposure  Haz No.   Delete  Change **NFIRS-7 HazMat**

**B** HazMat ID UN Number  DOT Hazard Classification  CAS Registration Number  Chemical Name   Change

<b>C1</b> Container Type <input type="checkbox"/> None <input type="text" value="21"/> Container Type  <b>More hazardous materials? Use additional sheets.</b>	<b>C2</b> Estimated Container Capacity <input type="text" value="000"/> <input type="text" value="000"/> <input type="text" value="100"/> Capacity: by volume or weight	<b>D1</b> Estimated Amount Released <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="text" value="000"/> <input type="text" value="000"/> <input type="text" value="100"/> Amount released: by volume or weight	<b>E1</b> Physical State When Released 1 <input type="checkbox"/> Solid 2 <input type="checkbox"/> Liquid 3 <input checked="" type="checkbox"/> Gas U <input type="checkbox"/> Undetermined
	<b>C3</b> Units: Capacity Check one box VOLUME WEIGHT 11 <input type="checkbox"/> Ounces 21 <input type="checkbox"/> Ounces 12 <input type="checkbox"/> Gallons 22 <input type="checkbox"/> Pounds 13 <input type="checkbox"/> Barrels: 42 gal. 23 <input type="checkbox"/> Grams 14 <input type="checkbox"/> Liters 24 <input type="checkbox"/> Kilograms 15 <input checked="" type="checkbox"/> Cubic feet 16 <input type="checkbox"/> Cubic meters MICRO UNITS <input type="text"/> Enter Code	<b>D2</b> Units: Released Check one box VOLUME WEIGHT 11 <input type="checkbox"/> Ounces 21 <input type="checkbox"/> Ounces 12 <input type="checkbox"/> Gallons 22 <input type="checkbox"/> Pounds 13 <input type="checkbox"/> Barrels: 42 gal. 23 <input type="checkbox"/> Grams 14 <input type="checkbox"/> Liters 24 <input type="checkbox"/> Kilograms 15 <input checked="" type="checkbox"/> Cubic feet 16 <input type="checkbox"/> Cubic meters MICRO UNITS <input type="text"/> Enter Code	<b>E2</b> Released Into <input type="text" value="1"/> Released into

<b>F1</b> Released From Check all applicable boxes <input type="checkbox"/> Below grade 1 <input checked="" type="checkbox"/> Inside/on structure <input type="text" value="001"/> Story of release 2 <input type="checkbox"/> Outside of structure	<b>F2</b> Population Density 1 <input checked="" type="checkbox"/> Urban 2 <input type="checkbox"/> Suburban 3 <input type="checkbox"/> Rural	<b>G2</b> Area Evacuated <input type="checkbox"/> None 1 <input type="checkbox"/> Square feet <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="3"/> 2 <input checked="" type="checkbox"/> Blocks Enter measurement 3 <input type="checkbox"/> Square miles	<b>H</b> HazMat Actions Taken Enter up to three actions taken <input type="text" value="13"/> <input type="text" value="Confinement"/> Primary action taken (1) <input type="text" value="22"/> <input type="text" value="Isolate area"/> Additional action taken (2) Additional action taken (3)
	<b>G1</b> Area Affected 1 <input type="checkbox"/> Square feet 2 <input checked="" type="checkbox"/> Blocks 3 <input type="checkbox"/> Square miles <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> Enter measurement	<b>G3</b> Estimated Number of People Evacuated <input type="text" value="000"/> <input type="text" value="550"/>	<b>G4</b> Estimated Number of Buildings Evacuated <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="checkbox"/> None

<b>J</b> Cause of Release <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 <input type="checkbox"/> Intentional 2 <input type="checkbox"/> Unintentional release 3 <input checked="" type="checkbox"/> Container/containment failure 4 <input type="checkbox"/> Act of nature 5 <input type="checkbox"/> Cause under investigation U <input type="checkbox"/> Cause undetermined after investigation	<b>K</b> Factors Contributing to Release Enter up to three contributing factors <input type="text" value="54"/> <input type="text" value="Other part failure/Leak"/> Factor contributing to release (1) Factor contributing to release (2) Factor contributing to release (3)	<b>L</b> Factors Affecting Mitigation <input type="checkbox"/> None Enter up to three factors or impediments that affected the mitigation of the incident <input type="text" value="NN"/> <input type="text" value="None"/> Factor or impediment (1) Factor or impediment (2) Factor or impediment (3)
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<b>M</b> Equipment Involved in Release <input checked="" type="checkbox"/> None Equipment involved in release Brand <input type="text"/> Model <input type="text"/> Serial # <input type="text"/> Year <input type="text"/>	<b>N</b> Mobile Property Involved in Release <input checked="" type="checkbox"/> None Mobile property type <input type="text"/> Mobile property make <input type="text"/> Model <input type="text"/> Year <input type="text"/> License plate number <input type="text"/> State <input type="text"/> DOT number/ ICC number <input type="text"/>	<b>O</b> HazMat Disposition <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> 1 <input type="checkbox"/> Completed by fire service only 2 <input type="checkbox"/> Completed w/fire service present 3 <input type="checkbox"/> Released to local agency 4 <input type="checkbox"/> Released to county agency 5 <input type="checkbox"/> Released to state agency 6 <input type="checkbox"/> Released to federal agency 7 <input type="checkbox"/> Released to private agency 8 <input checked="" type="checkbox"/> Released to property owner or manager
		<b>P</b> HazMat Civilian Casualties Deaths <input type="text" value="000"/> Injuries <input type="text" value="0003"/> NFIRS-7 Revision 01/01/06

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## EXERCISE SCENARIO 7-1: Cargo Tank Rollover

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**Directions:** Read the call information in the exercise below. Use the information provided to complete the Hazardous Materials Module form. Compare your work to the answers provided on the completed Hazardous Materials Module form. If your answers are different from the ones provided, read over the Hazardous Materials Module again.

At 0630 hours on Monday, May 8, 1998, Buckley Fire Communications Center (FDID #TR100, Station #1) was notified that a cargo tanker had overturned on the southbound off-ramp from the 5th Street Bridge to Highway 287, Buckley, WI 12345. The Communications Center assigned the number 9802436 to the incident and dispatched two engines and one truck company (each with a crew of three), a rescue unit (two crewmembers), and a Battalion Chief. While en route, the dispatcher advised responding units that numerous calls were being received from the residential subdivision south of the incident. Citizens were reporting a foul odor and having difficulty breathing.

At 0636 hours, Engine 2 with a crew of four arrived on the scene and reported that a 6,000-gallon MC-307 Mack G-200, 1990, cargo tanker with a Wisconsin license plate #12456 had rolled on its side and was spilling its load down the street and into the river. The area affected was 1 square mile. Engine 2 further reported that the tanker had a placard bearing the UN ID #1092. The DOT *Emergency Response Guide* was used to identify the material as Acrolein, Inhibited. The truck driver was trapped in the vehicle and considered to be either unconscious or dead. Engine 2 requested that the Gorman County Hazardous Materials Response Team (FDID #08900) and a private ambulance with two personnel be dispatched.

Upon his arrival at 0640 hours, the Battalion Chief ordered an evacuation of, at least, 600 feet in all directions. He also requested the police department to evacuate a downwind area 3 miles in width and 3 miles in length. Approximately 200 homes and 96 people in this suburban area were affected by the evacuation order. The BC also requested that six more private ambulances with two persons each are dispatched to a Staging Area and ordered both highways shut down to traffic. Two additional engines with a crew of three each were dispatched to assist with the evacuation. Fire department personnel established a decontamination area and deployed protective hoselines while awaiting the HazMat Response Team.

About 30 minutes later, the two-unit, twelve-member HazMat Response Team arrived and assumed operational control of the incident. (Their incident number was 9800226.) Over the next 6 hours, the HazMat Team contained the spill by placing dikes in the street, absorbent booms in the river, and stopped the leak by securing the dome cover. The driver (who apparently died from inhalation of the vapors) was removed, decontaminated, and released to the coroner. The incident was declared under control at 1310 hours.

Eventually, the tanker was off-loaded by a private contractor and was righted. A vacuum truck and absorbent materials provided by a private contractor were used to remove the remaining chemical hazard from the street and river. It was estimated that 1,000 gallons of Acrolein was released as a result of the incident. A total of 16 civilians and two police officers complaining of respiratory distress were transported to the hospital by private ambulances. Fire department personnel suffered no casualties. The HazMat Team left the scene at 1525 hours and the last fire department unit cleared the scene at 1530 hours. Upon investigation, the State Police determined that the driver lost control of the tanker when he was exiting onto the off-ramp at an excessive speed. Part of the problem was that the brakes failed to operate properly.

NFIRS-7 <b>HazMat</b>																							
<b>A</b> <table style="width:100%; border: none;"> <tr> <td style="border: none;">FDID <input style="width: 40px;" type="text"/></td> <td style="border: none;">State <input style="width: 40px;" type="text"/></td> <td style="border: none;">MM <input style="width: 20px;" type="text"/> DD <input style="width: 20px;" type="text"/></td> <td style="border: none;">YYYY <input style="width: 40px;" type="text"/></td> <td style="border: none;">Station <input style="width: 40px;" type="text"/></td> <td style="border: none;">Incident Number <input style="width: 40px;" type="text"/></td> <td style="border: none;">Exposure <input style="width: 40px;" type="text"/></td> <td style="border: none;">Haz No. <input style="width: 40px;" type="text"/></td> <td style="border: none;"><input type="checkbox"/> Delete</td> <td style="border: none;"><input type="checkbox"/> Change</td> <td colspan="2" style="border: none;"></td> </tr> </table>												FDID <input style="width: 40px;" type="text"/>	State <input style="width: 40px;" type="text"/>	MM <input style="width: 20px;" type="text"/> DD <input style="width: 20px;" type="text"/>	YYYY <input style="width: 40px;" type="text"/>	Station <input style="width: 40px;" type="text"/>	Incident Number <input style="width: 40px;" type="text"/>	Exposure <input style="width: 40px;" type="text"/>	Haz No. <input style="width: 40px;" type="text"/>	<input type="checkbox"/> Delete	<input type="checkbox"/> Change		
FDID <input style="width: 40px;" type="text"/>	State <input style="width: 40px;" type="text"/>	MM <input style="width: 20px;" type="text"/> DD <input style="width: 20px;" type="text"/>	YYYY <input style="width: 40px;" type="text"/>	Station <input style="width: 40px;" type="text"/>	Incident Number <input style="width: 40px;" type="text"/>	Exposure <input style="width: 40px;" type="text"/>	Haz No. <input style="width: 40px;" type="text"/>	<input type="checkbox"/> Delete	<input type="checkbox"/> Change														
<b>B</b> <table style="width:100%; border: none;"> <tr> <td style="border: none;">UN Number <input style="width: 40px;" type="text"/></td> <td style="border: none;">DOT Hazard Classification <input style="width: 40px;" type="text"/></td> <td style="border: none;">CAS Registration Number <input style="width: 40px;" type="text"/></td> <td style="border: none;">Chemical Name <input style="width: 40px;" type="text"/></td> </tr> </table>												UN Number <input style="width: 40px;" type="text"/>	DOT Hazard Classification <input style="width: 40px;" type="text"/>	CAS Registration Number <input style="width: 40px;" type="text"/>	Chemical Name <input style="width: 40px;" type="text"/>								
UN Number <input style="width: 40px;" type="text"/>	DOT Hazard Classification <input style="width: 40px;" type="text"/>	CAS Registration Number <input style="width: 40px;" type="text"/>	Chemical Name <input style="width: 40px;" type="text"/>																				
<b>C1</b> Container Type <input type="checkbox"/> None  <input style="width: 40px;" type="text"/> Container Type			<b>C2</b> Estimated Container Capacity  <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Capacity: by volume or weight			<b>D1</b> Estimated Amount Released <input type="checkbox"/> ☆  <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Amount released: by volume or weight			<b>E1</b> Physical State When Released  1 <input type="checkbox"/> Solid 2 <input type="checkbox"/> Liquid 3 <input type="checkbox"/> Gas U <input type="checkbox"/> Undetermined														
More hazardous materials? Use additional sheets.			<b>C3</b> Units: Capacity Check one box  VOLUME WEIGHT 11 <input type="checkbox"/> Ounces 21 <input type="checkbox"/> Ounces 12 <input type="checkbox"/> Gallons 22 <input type="checkbox"/> Pounds 13 <input type="checkbox"/> Barrels: 42 gal. 23 <input type="checkbox"/> Grams 14 <input type="checkbox"/> Liters 24 <input type="checkbox"/> Kilograms 15 <input type="checkbox"/> Cubic feet 16 <input type="checkbox"/> Cubic meters			<b>D2</b> Units: Released Check one box  VOLUME WEIGHT 11 <input type="checkbox"/> Ounces 21 <input type="checkbox"/> Ounces 12 <input type="checkbox"/> Gallons 22 <input type="checkbox"/> Pounds 13 <input type="checkbox"/> Barrels: 42 gal. 23 <input type="checkbox"/> Grams 14 <input type="checkbox"/> Liters 24 <input type="checkbox"/> Kilograms 15 <input type="checkbox"/> Cubic feet 16 <input type="checkbox"/> Cubic meters			<b>E2</b> Released Into  <input style="width: 40px;" type="text"/> Released into														
			11 <input type="checkbox"/> Ounces 21 <input type="checkbox"/> Ounces 12 <input type="checkbox"/> Gallons 22 <input type="checkbox"/> Pounds 13 <input type="checkbox"/> Barrels: 42 gal. 23 <input type="checkbox"/> Grams 14 <input type="checkbox"/> Liters 24 <input type="checkbox"/> Kilograms 15 <input type="checkbox"/> Cubic feet 16 <input type="checkbox"/> Cubic meters MICRO UNITS <input style="width: 40px;" type="text"/> Enter Code			11 <input type="checkbox"/> Ounces 21 <input type="checkbox"/> Ounces 12 <input type="checkbox"/> Gallons 22 <input type="checkbox"/> Pounds 13 <input type="checkbox"/> Barrels: 42 gal. 23 <input type="checkbox"/> Grams 14 <input type="checkbox"/> Liters 24 <input type="checkbox"/> Kilograms 15 <input type="checkbox"/> Cubic feet 16 <input type="checkbox"/> Cubic meters MICRO UNITS <input style="width: 40px;" type="text"/> Enter Code																	
Complete the remainder of this form only for the first hazardous material involved in this incident.			<b>F2</b> Population Density  1 <input type="checkbox"/> Urban 2 <input type="checkbox"/> Suburban 3 <input type="checkbox"/> Rural			<b>G2</b> Area Evacuated <input type="checkbox"/> None  1 <input type="checkbox"/> Square feet <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> 2 <input type="checkbox"/> Blocks 3 <input type="checkbox"/> Square miles Enter measurement			<b>H</b> HazMat Actions Taken  Enter up to three actions taken Primary action taken (1) <input style="width: 40px;" type="text"/> Additional action taken (2) <input style="width: 40px;" type="text"/> Additional action taken (3) <input style="width: 40px;" type="text"/>														
			<b>F1</b> Released From Check all applicable boxes  <input type="checkbox"/> Below grade 1 <input type="checkbox"/> Inside/on structure <input style="width: 40px;" type="text"/> Story of release 2 <input type="checkbox"/> Outside of structure			<b>G1</b> Area Affected  1 <input type="checkbox"/> Square feet 2 <input type="checkbox"/> Blocks 3 <input type="checkbox"/> Square miles <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Enter measurement			<b>G3</b> Estimated Number of People Evacuated  <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/>			<b>I</b> If fire or explosion is involved with a release, which occurred first?  1 <input type="checkbox"/> Ignition U <input type="checkbox"/> Undetermined 2 <input type="checkbox"/> Release											
<b>J</b> Cause of Release <input type="checkbox"/> ☆  1 <input type="checkbox"/> Intentional 2 <input type="checkbox"/> Unintentional release 3 <input type="checkbox"/> Container/containment failure 4 <input type="checkbox"/> Act of nature 5 <input type="checkbox"/> Cause under investigation U <input type="checkbox"/> Cause undetermined after investigation			<b>K</b> Factors Contributing to Release  Enter up to three contributing factors Factor contributing to release (1) <input style="width: 40px;" type="text"/> Factor contributing to release (2) <input style="width: 40px;" type="text"/> Factor contributing to release (3) <input style="width: 40px;" type="text"/>			<b>L</b> Factors Affecting Mitigation <input type="checkbox"/> None  Enter up to three factors or impediments that affected the mitigation of the incident Factor or impediment (1) <input style="width: 40px;" type="text"/> Factor or impediment (2) <input style="width: 40px;" type="text"/> Factor or impediment (3) <input style="width: 40px;" type="text"/>																	
<b>M</b> Equipment Involved in Release <input type="checkbox"/> None  Equipment involved in release <input style="width: 40px;" type="text"/>  Brand <input style="width: 40px;" type="text"/> Model <input style="width: 40px;" type="text"/> Serial # <input style="width: 40px;" type="text"/> Year <input style="width: 40px;" type="text"/>			<b>N</b> Mobile Property Involved in Release <input type="checkbox"/> None  Mobile property type <input style="width: 40px;" type="text"/>  Mobile property make <input style="width: 40px;" type="text"/> Model <input style="width: 40px;" type="text"/> Year <input style="width: 40px;" type="text"/> License plate number <input style="width: 40px;" type="text"/> State <input style="width: 40px;" type="text"/> DOT number/ ICC number <input style="width: 40px;" type="text"/>			<b>O</b> HazMat Disposition <input type="checkbox"/> ☆  1 <input type="checkbox"/> Completed by fire service only 2 <input type="checkbox"/> Completed w/fire service present 3 <input type="checkbox"/> Released to local agency 4 <input type="checkbox"/> Released to county agency 5 <input type="checkbox"/> Released to state agency 6 <input type="checkbox"/> Released to federal agency 7 <input type="checkbox"/> Released to private agency 8 <input type="checkbox"/> Released to property owner or manager																	
						<b>P</b> HazMat Civilian Casualties  Deaths <input style="width: 40px;" type="text"/> Injuries <input style="width: 40px;" type="text"/>			NFIRS-7 Revision 01/01/06														

NFIRS 5.0 Self-Study Program

**A** FDID  State  Incident Date     Station  Incident Number  Exposure  Haz No.   Delete  Change **NFIRS-7 HazMat**

**B** HazMat ID UN Number  DOT Hazard Classification  CAS Registration Number  Chemical Name   Change

<p><b>C1</b> Container Type <input type="checkbox"/> None</p> <p><input type="text" value="42"/> Container Type</p> <p>More hazardous materials? Use additional sheets.</p>	<p><b>C2</b> Estimated Container Capacity</p> <p><input type="text" value="000"/> <input type="text" value="006"/> <input type="text" value="000"/></p> <p>Capacity: by volume or weight</p>	<p><b>D1</b> Estimated Amount Released <input type="checkbox"/> Star</p> <p><input type="text" value="000"/> <input type="text" value="001"/> <input type="text" value="000"/></p> <p>Amount released: by volume or weight</p>	<p><b>E1</b> Physical State When Released</p> <p>1 <input type="checkbox"/> Solid</p> <p>2 <input checked="" type="checkbox"/> Liquid</p> <p>3 <input type="checkbox"/> Gas</p> <p>U <input type="checkbox"/> Undetermined</p>
	<p><b>C3</b> Units: Capacity Check one box</p> <p><b>VOLUME</b></p> <p>11 <input type="checkbox"/> Ounces</p> <p>12 <input checked="" type="checkbox"/> Gallons</p> <p>13 <input checked="" type="checkbox"/> Barrels: 42 gal.</p> <p>14 <input type="checkbox"/> Liters</p> <p>15 <input type="checkbox"/> Cubic feet</p> <p>16 <input type="checkbox"/> Cubic meters</p> <p><b>WEIGHT</b></p> <p>21 <input type="checkbox"/> Ounces</p> <p>22 <input type="checkbox"/> Pounds</p> <p>23 <input type="checkbox"/> Grams</p> <p>24 <input type="checkbox"/> Kilograms</p> <p><b>MICRO UNITS</b></p> <p><input type="text" value=""/> Enter Code</p>	<p><b>D2</b> Units: Released Check one box</p> <p><b>VOLUME</b></p> <p>11 <input type="checkbox"/> Ounces</p> <p>12 <input checked="" type="checkbox"/> Gallons</p> <p>13 <input type="checkbox"/> Barrels: 42 gal.</p> <p>14 <input type="checkbox"/> Liters</p> <p>15 <input type="checkbox"/> Cubic feet</p> <p>16 <input type="checkbox"/> Cubic meters</p> <p><b>WEIGHT</b></p> <p>21 <input type="checkbox"/> Ounces</p> <p>22 <input type="checkbox"/> Pounds</p> <p>23 <input type="checkbox"/> Grams</p> <p>24 <input type="checkbox"/> Kilograms</p> <p><b>MICRO UNITS</b></p> <p><input type="text" value=""/> Enter Code</p>	<p><b>E2</b> Released Into</p> <p><input type="text" value="7"/> Released into</p>

<p>Complete the remainder of this form only for the first hazardous material involved in this incident.</p>	<p><b>F2</b> Population Density</p> <p>1 <input type="checkbox"/> Urban</p> <p>2 <input checked="" type="checkbox"/> Suburban</p> <p>3 <input type="checkbox"/> Rural</p>	<p><b>G2</b> Area Evacuated <input type="checkbox"/> None</p> <p>1 <input type="checkbox"/> Square feet <input type="text" value="01009"/></p> <p>2 <input type="checkbox"/> Blocks Enter measurement</p> <p>3 <input checked="" type="checkbox"/> Square miles</p>	<p><b>H</b> HazMat Actions Taken</p> <p>Enter up to three actions taken</p> <p>1 <input type="text" value="13"/> <input type="text" value="Spill Control"/></p> <p>Primary action taken (1)</p> <p>2 <input type="text" value="22"/> <input type="text" value="Isolate &amp; establish"/></p> <p>Additional action taken (2)</p> <p>3 <input type="text" value="28"/> <input type="text" value="Protect civilians"/></p> <p>Additional action taken (3)</p>
	<p><b>F1</b> Released From</p> <p>Check all applicable boxes</p> <p><input type="checkbox"/> Below grade</p> <p>1 <input type="checkbox"/> Inside/on structure <input type="text" value=""/> Story of release</p> <p>2 <input checked="" type="checkbox"/> Outside of structure</p>	<p><b>G1</b> Area Affected</p> <p>1 <input type="checkbox"/> Square feet</p> <p>2 <input type="checkbox"/> Blocks</p> <p>3 <input checked="" type="checkbox"/> Square miles</p> <p><input type="text" value="01001"/> Enter measurement</p>	<p><b>G3</b> Estimated Number of People Evacuated</p> <p><input type="text" value="000"/> <input type="text" value="096"/></p>

<p><b>J</b> Cause of Release <input type="checkbox"/> Star</p> <p>1 <input type="checkbox"/> Intentional</p> <p>2 <input checked="" type="checkbox"/> Unintentional release</p> <p>3 <input type="checkbox"/> Container/containment failure</p> <p>4 <input type="checkbox"/> Act of nature</p> <p>5 <input type="checkbox"/> Cause under investigation</p> <p>U <input type="checkbox"/> Cause undetermined after investigation</p>	<p><b>K</b> Factors Contributing to Release</p> <p>Enter up to three contributing factors</p> <p>1 <input type="text" value="71"/> <input type="text" value="Collision"/></p> <p>Factor contributing to release (1)</p> <p>2 <input type="text" value="30"/> <input type="text" value="Human Failure"/></p> <p>Factor contributing to release (2)</p> <p>3 <input type="text" value=""/> <input type="text" value=""/></p> <p>Factor contributing to release (3)</p>	<p><b>L</b> Factors Affecting Mitigation <input type="checkbox"/> None</p> <p>Enter up to three factors or impediments that affected the mitigation of the incident</p> <p>1 <input type="text" value="18"/> <input type="text" value="Release on major Hwy"/></p> <p>Factor or impediment (1)</p> <p>2 <input type="text" value="11"/> <input type="text" value="Water table"/></p> <p>Factor or impediment (2)</p> <p>3 <input type="text" value="14"/> <input type="text" value="Released in residential area"/></p> <p>Factor or impediment (3)</p>
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<p><b>M</b> Equipment Involved in Release <input checked="" type="checkbox"/> None</p> <p>Equipment involved in release <input type="text" value=""/></p> <p>Brand <input type="text" value=""/></p> <p>Model <input type="text" value=""/></p> <p>Serial # <input type="text" value=""/></p> <p>Year <input type="text" value=""/></p>	<p><b>N</b> Mobile Property Involved in Release <input type="checkbox"/> None</p> <p><input type="text" value="25"/> <input type="text" value="Tank Truck"/></p> <p>Mobile property type</p> <p><input type="text" value="MK"/> <input type="text" value="Mack"/></p> <p>Mobile property make</p> <p><input type="text" value="G200"/> <input type="text" value="1990"/></p> <p>Model Year</p> <p><input type="text" value="12456"/> <input type="text" value="WI"/></p> <p>License plate number State</p> <p><input type="text" value=""/> DOT number/ ICC number</p>	<p><b>O</b> HazMat Disposition <input type="checkbox"/> Star</p> <p>1 <input type="checkbox"/> Completed by fire service only</p> <p>2 <input type="checkbox"/> Completed w/fire service present</p> <p>3 <input type="checkbox"/> Released to local agency</p> <p>4 <input type="checkbox"/> Released to county agency</p> <p>5 <input type="checkbox"/> Released to state agency</p> <p>6 <input type="checkbox"/> Released to federal agency</p> <p>7 <input checked="" type="checkbox"/> Released to private agency</p> <p>8 <input type="checkbox"/> Released to property owner or manager</p>
<p><b>P</b> HazMat Civilian Casualties</p> <p>Deaths <input type="text" value="0001"/> Injuries <input type="text" value="0018"/></p> <p>NFIRS-7 Revision 01/01/06</p>		

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## EXERCISE SCENARIO 7-2: HazMat I-95

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**Directions:** Read the call information in the exercise below. Use the information provided to complete the entire Hazardous Materials Module form and other required forms. Compare your work to the answers provided in Appendix A. If your answers are different from the ones provided, read over the Hazardous Materials Module again.

The Alberta Fire Department (FDID #92188, Station 001) received a call for a truck accident on I-95 near mile marker 73 and Exit 2B in Brunswick, Virginia 23351 on May 3, 2005. The dispatcher assigned the incident (#5455) to Engine Co. 2 from Shift C. The unit received the alarm at 11:58 p.m. and arrived at the scene in 6 minutes with a four-person engine crew and a four-person truck crew.

The dispatcher received a second call from a bystander at the incident. He reported the accident and told the dispatcher that he saw cylinders in the cargo area of the vehicle. At 12:00 a.m., the dispatcher notified the fire department and dispatched their five-person HazMat Truck from Station 2. They found three cylinders in the cargo area of the vehicle. The cylinders contained Compressed Oxygen (UN# 1072, CAS Reg. #7782-44-7, DOT Hazard Class 2.2). The largest cylinder was leaking gas. The cylinder was a Type MM with a capacity of 122 cubic feet. The other two cylinders were Type M60 (60 cu. ft.). The affected area was 15 square feet. The unit established a hazard control zone of 160 square feet. Even though the hazard was on Interstate-95 and in an urban center, no people or buildings had to be evacuated because of the location of the incident. The HazMat Team moved the cylinders and stopped the leak. They estimated that 90 cubic feet of the gas escaped. There were no injuries resulting from the leak. The unit, last to clear the scene, left at 1:05 a.m.

The officer in charge was Lieutenant Dave Sanders. Firefighter John Edgely completed the incident report on May 4, 2005.

**A** FDID  Delete  Change  No Activity **NFIRS-1 Basic**

State  Incident Date  Station  Incident Number  Exposure

**B Location Type**  Check this box to indicate that the address for this incident is provided on the Wildland Fire Module in Section B, "Alternative Location Specification." Use only for wildland fires. Census Tract \_\_\_\_\_

Street address  
 Intersection  
 In front of  
 Rear of  
 Adjacent to  
 Directions  
 US National Grid

Number/Milepost Prefix Street or Highway Street Type Suffix  
 Apt./Suite/Room City State ZIP Code  
 Cross Street, Directions or National Grid, as applicable

**C Incident Type**  Incident Type \_\_\_\_\_

**E1 Dates and Times** Midnight is 0000  
 Month Day Year Hour Min  
 Check boxes if dates are the same as Alarm Date.  
 Alarm  Arrival  Controlled  Last Unit Cleared

**E2 Shifts and Alarms** Local Option  
 Shift or Platoon Alarms District

**D Aid Given or Received**  None

1  Mutual aid received  
 2  Auto. aid received  
 3  Mutual aid given  
 4  Auto. aid given  
 5  Other aid given

Their FDID Their State  
 Their Incident Number

ARRIVAL required, unless canceled or did not arrive  
 CONTROLLED optional, except for wildland fires  
 LAST UNIT CLEARED, required except for wildland fires

**E3 Special Studies** Local Option  
 Special Study ID# Special Study Value

**F Actions Taken**

Primary Action Taken (1)  
 Additional Action Taken (2)  
 Additional Action Taken (3)

**G1 Resources**  Check this box and skip this block if an Apparatus or Personnel Module is used.

Apparatus Personnel  
 Suppression  
 EMS  
 Other

Check box if resource counts include aid received resources.

**G2 Estimated Dollar Losses and Values**

LOSSES: Required for all fires if known. Optional for non-fires. None

Property \$ \_\_\_\_\_  
 Contents \$ \_\_\_\_\_  
 PRE-INCIDENT VALUE: Optional  
 Property \$ \_\_\_\_\_  
 Contents \$ \_\_\_\_\_

**Completed Modules**

Fire-2  
 Structure Fire-3  
 Civilian Fire Cas.-4  
 Fire Service Cas.-5  
 EMS-6  
 HazMat-7  
 Wildland Fire-8  
 Apparatus-9  
 Personnel-10  
 Arson-11

**H1 Casualties**  None

Deaths Injuries  
 Fire Service  
 Civilian

**H2 Detector** Required for confined fires.  
 1  Detector alerted occupants  
 2  Detector did not alert them  
 U  Unknown

**H3 Hazardous Materials Release**  None

1  Natural gas: slow leak, no evacuation or HazMat actions  
 2  Propane gas: <21-lb tank (as in home BBQ grill)  
 3  Gasoline: vehicle fuel tank or portable container  
 4  Kerosene: fuel burning equipment or portable storage  
 5  Diesel fuel/fuel oil: vehicle fuel tank or portable storage  
 6  Household solvents: home/office spill, cleanup only  
 7  Motor oil: from engine or portable container  
 8  Paint: from paint cans totaling <55 gallons  
 0  Other: special HazMat actions required or spill > 55 gal (Please complete the HazMat form.)

**I Mixed Use Property**  Not mixed

10  Assembly use  
 20  Education use  
 33  Medical use  
 40  Residential use  
 51  Row of stores  
 53  Enclosed mall  
 58  Business & residential  
 59  Office use  
 60  Industrial use  
 63  Military use  
 65  Farm use  
 00  Other mixed use

**J Property Use**  None

**Structures**  
 131  Church, place of worship  
 161  Restaurant or cafeteria  
 162  Bar/tavern or nightclub  
 213  Elementary school, kindergarten  
 215  High school, junior high  
 241  College, adult education  
 311  Nursing home  
 331  Hospital

**Outside**  
 124  Playground or park  
 655  Crops or orchard  
 669  Forest (timberland)  
 807  Outdoor storage area  
 919  Dump or sanitary landfill  
 931  Open land or field

341  Clinic, clinic-type infirmary  
 342  Doctor/dentist office  
 361  Prison or jail, not juvenile  
 419  1- or 2-family dwelling  
 429  Multifamily dwelling  
 439  Rooming/boarding house  
 449  Commercial hotel or motel  
 459  Residential, board and care  
 464  Dormitory/barracks  
 519  Food and beverage sales

936  Vacant lot  
 938  Graded/cared for plot of land  
 946  Lake, river, stream  
 951  Railroad right-of-way  
 960  Other street  
 961  Highway/divided highway  
 962  Residential street/driveway

539  Household goods, sales, repairs  
 571  Gas or service station  
 579  Motor vehicle/boat sales/repairs  
 599  Business office  
 615  Electric-generating plant  
 629  Laboratory/science laboratory  
 700  Manufacturing plant  
 819  Livestock/poultry storage (barn)  
 882  Non-residential parking garage  
 891  Warehouse

981  Construction site  
 984  Industrial plant yard

Look up and enter a Property Use code and description only if you have NOT checked a Property Use box.

Property Use Code

**K1 Person/Entity Involved**

Local Option  Business Name (if applicable) \_\_\_\_\_ Area Code \_\_\_\_\_ Phone Number \_\_\_\_\_

Check this box if same address as incident Location (Section B). Then skip the three duplicate address lines.

Mr., Ms., Mrs. First Name \_\_\_\_\_ MI \_\_\_\_\_ Last Name \_\_\_\_\_ Suffix \_\_\_\_\_

Number \_\_\_\_\_ Prefix \_\_\_\_\_ Street or Highway \_\_\_\_\_ Street Type \_\_\_\_\_ Suffix \_\_\_\_\_

Post Office Box \_\_\_\_\_ Apt./Suite/Room \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ ZIP Code \_\_\_\_\_ - \_\_\_\_\_

More people involved? Check this box and attach Supplemental Forms (NFIRS-1S) as necessary.

**K2 Owner**

Local Option  Same as person involved? Then check this box and skip the rest of this block. Business Name (if applicable) \_\_\_\_\_ Area Code \_\_\_\_\_ Phone Number \_\_\_\_\_

Check this box if same address as incident Location (Section B). Then skip the three duplicate address lines.

Mr., Ms., Mrs. First Name \_\_\_\_\_ MI \_\_\_\_\_ Last Name \_\_\_\_\_ Suffix \_\_\_\_\_

Number \_\_\_\_\_ Prefix \_\_\_\_\_ Street or Highway \_\_\_\_\_ Street Type \_\_\_\_\_ Suffix \_\_\_\_\_

Post Office Box \_\_\_\_\_ Apt./Suite/Room \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ ZIP Code \_\_\_\_\_ - \_\_\_\_\_

**L Remarks:**

Local Option

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**Fire Module Required?**

Check the box that applies and then complete the Fire Module based on Incident Type, as follows:

<input type="checkbox"/> Buildings 111	Complete Fire & Structure Modules
<input type="checkbox"/> Special structure 112	Complete Fire Module & Section I, Structure Module
<input type="checkbox"/> Confined 113-118	Basic Module Only
<input type="checkbox"/> Mobile property 120-123	Complete Fire Module
<input type="checkbox"/> Vehicle 130-138	Complete Fire Module
<input type="checkbox"/> Vegetation 140-143	Complete Fire or Wildland Module
<input type="checkbox"/> Outside rubbish fire 150-155	Basic Module Only
<input type="checkbox"/> Special outside fire 160	Complete Fire or Wildland Module
<input type="checkbox"/> Special outside fire 161-163	Complete Fire Module
<input type="checkbox"/> Crop fire 170-173	Complete Fire or Wildland Module

 **ITEMS WITH A ★ MUST ALWAYS BE COMPLETED!**

More remarks? Check this box and attach Supplemental Forms (NFIRS-1S) as necessary.

**M Authorization**

Officer in charge ID \_\_\_\_\_ Signature \_\_\_\_\_ Position or rank \_\_\_\_\_ Assignment \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

Check box if same as Officer in charge.  Member making report ID \_\_\_\_\_ Signature \_\_\_\_\_ Position or rank \_\_\_\_\_ Assignment \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

<b>A</b> <table style="width:100%; border: none;"> <tr> <td style="border: none;">FDID <input style="width: 40px;" type="text"/></td> <td style="border: none;">State <input style="width: 40px;" type="text"/></td> <td style="border: none;">Incident Date <input style="width: 40px;" type="text"/></td> <td style="border: none;">Station <input style="width: 40px;" type="text"/></td> <td style="border: none;">Incident Number <input style="width: 40px;" type="text"/></td> <td style="border: none;">Exposure <input style="width: 40px;" type="text"/></td> <td style="border: none;">Haz No. <input style="width: 40px;" type="text"/></td> <td style="border: none; text-align: right;"> <input type="checkbox"/> Delete  <input type="checkbox"/> Change             </td> </tr> </table>		FDID <input style="width: 40px;" type="text"/>	State <input style="width: 40px;" type="text"/>	Incident Date <input style="width: 40px;" type="text"/>	Station <input style="width: 40px;" type="text"/>	Incident Number <input style="width: 40px;" type="text"/>	Exposure <input style="width: 40px;" type="text"/>	Haz No. <input style="width: 40px;" type="text"/>	<input type="checkbox"/> Delete <input type="checkbox"/> Change	<b>NFIRS-7 HazMat</b>																					
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<b>C1 Container Type</b> <input type="checkbox"/> None  <input style="width: 40px;" type="text"/> Container Type  <div style="border: 1px solid black; padding: 5px; width: fit-content;">                     More hazardous materials? Use additional sheets.                 </div>	<b>C2 Estimated Container Capacity</b> <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Capacity: by volume or weight  <b>C3 Units: Capacity</b> Check one box <table style="width:100%; border: none;"> <tr> <td style="width: 50%;"><b>VOLUME</b></td> <td style="width: 50%;"><b>WEIGHT</b></td> </tr> <tr> <td>11 <input type="checkbox"/> Ounces</td> <td>21 <input type="checkbox"/> Ounces</td> </tr> <tr> <td>12 <input type="checkbox"/> Gallons</td> <td>22 <input type="checkbox"/> Pounds</td> </tr> <tr> <td>13 <input type="checkbox"/> Barrels: 42 gal.</td> <td>23 <input type="checkbox"/> Grams</td> </tr> <tr> <td>14 <input type="checkbox"/> Liters</td> <td>24 <input type="checkbox"/> Kilograms</td> </tr> <tr> <td>15 <input type="checkbox"/> Cubic feet</td> <td><b>MICRO UNITS</b></td> </tr> <tr> <td>16 <input type="checkbox"/> Cubic meters</td> <td><input style="width: 40px;" type="text"/> Enter Code</td> </tr> </table>	<b>VOLUME</b>	<b>WEIGHT</b>	11 <input type="checkbox"/> Ounces	21 <input type="checkbox"/> Ounces	12 <input type="checkbox"/> Gallons	22 <input type="checkbox"/> Pounds	13 <input type="checkbox"/> Barrels: 42 gal.	23 <input type="checkbox"/> Grams	14 <input type="checkbox"/> Liters	24 <input type="checkbox"/> Kilograms	15 <input type="checkbox"/> Cubic feet	<b>MICRO UNITS</b>	16 <input type="checkbox"/> Cubic meters	<input style="width: 40px;" type="text"/> Enter Code	<b>D1 Estimated Amount Released</b> <input type="checkbox"/> <b>D2 Units: Released</b> Check one box <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Amount released: by volume or weight  <table style="width:100%; border: none;"> <tr> <td style="width: 50%;"><b>VOLUME</b></td> <td style="width: 50%;"><b>WEIGHT</b></td> </tr> <tr> <td>11 <input type="checkbox"/> Ounces</td> <td>21 <input type="checkbox"/> Ounces</td> </tr> <tr> <td>12 <input type="checkbox"/> Gallons</td> <td>22 <input type="checkbox"/> Pounds</td> </tr> <tr> <td>13 <input type="checkbox"/> Barrels: 42 gal.</td> <td>23 <input type="checkbox"/> Grams</td> </tr> <tr> <td>14 <input type="checkbox"/> Liters</td> <td>24 <input type="checkbox"/> Kilograms</td> </tr> <tr> <td>15 <input type="checkbox"/> Cubic feet</td> <td><b>MICRO UNITS</b></td> </tr> <tr> <td>16 <input type="checkbox"/> Cubic meters</td> <td><input style="width: 40px;" type="text"/> Enter Code</td> </tr> </table>	<b>VOLUME</b>	<b>WEIGHT</b>	11 <input type="checkbox"/> Ounces	21 <input type="checkbox"/> Ounces	12 <input type="checkbox"/> Gallons	22 <input type="checkbox"/> Pounds	13 <input type="checkbox"/> Barrels: 42 gal.	23 <input type="checkbox"/> Grams	14 <input type="checkbox"/> Liters	24 <input type="checkbox"/> Kilograms	15 <input type="checkbox"/> Cubic feet	<b>MICRO UNITS</b>	16 <input type="checkbox"/> Cubic meters	<input style="width: 40px;" type="text"/> Enter Code	<b>E1 Physical State When Released</b> 1 <input type="checkbox"/> Solid 2 <input type="checkbox"/> Liquid 3 <input type="checkbox"/> Gas U <input type="checkbox"/> Undetermined  <b>E2 Released Into</b> <input style="width: 40px;" type="text"/> Released into
<b>VOLUME</b>	<b>WEIGHT</b>																														
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<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     Complete the remainder of this form only for the first hazardous material involved in this incident.                 </div>	<b>F2 Population Density</b> 1 <input type="checkbox"/> Urban 2 <input type="checkbox"/> Suburban 3 <input type="checkbox"/> Rural	<b>G2 Area Evacuated</b> <input type="checkbox"/> None 1 <input type="checkbox"/> Square feet <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> 2 <input type="checkbox"/> Blocks Enter measurement 3 <input type="checkbox"/> Square miles	<b>H HazMat Actions Taken</b> Enter up to three actions taken <input style="width: 100px;" type="text"/> Primary action taken (1) <input style="width: 100px;" type="text"/> Additional action taken (2) <input style="width: 100px;" type="text"/> Additional action taken (3)																												
<b>F1 Released From</b> Check all applicable boxes <input type="checkbox"/> Below grade 1 <input type="checkbox"/> Inside/on structure <input style="width: 40px;" type="text"/> Story of release 2 <input type="checkbox"/> Outside of structure	<b>G1 Area Affected</b> 1 <input type="checkbox"/> Square feet 2 <input type="checkbox"/> Blocks 3 <input type="checkbox"/> Square miles <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> Enter measurement	<b>G3 Estimated Number of People Evacuated</b> <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/>  <b>G4 Estimated Number of Buildings Evacuated</b> <input style="width: 40px;" type="text"/> , <input style="width: 40px;" type="text"/> <input type="checkbox"/> None	<b>I If fire or explosion is involved with a release, which occurred first?</b> 1 <input type="checkbox"/> Ignition      U <input type="checkbox"/> Undetermined 2 <input type="checkbox"/> Release																												
<b>J Cause of Release</b> <input type="checkbox"/> <b>K Factors Contributing to Release</b> 1 <input type="checkbox"/> Intentional 2 <input type="checkbox"/> Unintentional release 3 <input type="checkbox"/> Container/containerment failure 4 <input type="checkbox"/> Act of nature 5 <input type="checkbox"/> Cause under investigation U <input type="checkbox"/> Cause undetermined after investigation  Enter up to three contributing factors <input style="width: 100px;" type="text"/> Factor contributing to release (1) <input style="width: 100px;" type="text"/> Factor contributing to release (2) <input style="width: 100px;" type="text"/> Factor contributing to release (3)	<b>L Factors Affecting Mitigation</b> <input type="checkbox"/> None Enter up to three factors or impediments that affected the mitigation of the incident <input style="width: 100px;" type="text"/> Factor or impediment (1) <input style="width: 100px;" type="text"/> Factor or impediment (2) <input style="width: 100px;" type="text"/> Factor or impediment (3)																														
<b>M Equipment Involved in Release</b> <input type="checkbox"/> None <input style="width: 100px;" type="text"/> Equipment involved in release  Brand <input style="width: 100px;" type="text"/> Model <input style="width: 100px;" type="text"/> Serial # <input style="width: 100px;" type="text"/> Year <input style="width: 40px;" type="text"/>	<b>N Mobile Property Involved in Release</b> <input type="checkbox"/> None <input style="width: 100px;" type="text"/> Mobile property type <input style="width: 100px;" type="text"/> Mobile property make Model <input style="width: 40px;" type="text"/> Year <input style="width: 40px;" type="text"/> License plate number <input style="width: 40px;" type="text"/> State <input style="width: 40px;" type="text"/> DOT number/ ICC number <input style="width: 100px;" type="text"/>	<b>O HazMat Disposition</b> <input type="checkbox"/> 1 <input type="checkbox"/> Completed by fire service only 2 <input type="checkbox"/> Completed w/fire service present 3 <input type="checkbox"/> Released to local agency 4 <input type="checkbox"/> Released to county agency 5 <input type="checkbox"/> Released to state agency 6 <input type="checkbox"/> Released to federal agency 7 <input type="checkbox"/> Released to private agency 8 <input type="checkbox"/> Released to property owner or manager  <b>P HazMat Civilian Casualties</b> Deaths <input style="width: 40px;" type="text"/> Injuries <input style="width: 40px;" type="text"/>	NFIRS-7 Revision 01/01/06																												



## Hazardous Materials Module Test

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1. Which is not a definition of a **reportable** HazMat Incident?
  - (a) Any spill that requires the use of fire department resources.
  - (b) Specialized HazMat resources were dispatched or used for assessing, mitigating, or managing the situation.
  - (c) Specialized HazMat should have been dispatched or used for assessing, mitigating, or managing the situation.
  - (d) A release or spill of hazardous materials that exceeds 55 gallons.
  
2. Which identification system is not used in NFIRS to identify hazardous materials or their characteristics?
  - (a) UN Number.
  - (b) DOT Hazard Classification.
  - (c) Chemical Name.
  - (d) Chemical Identifier.
  
3. The chemical identification system that is printed on placards or labels on the materials during transportation is:
  - (a) UN Number.
  - (b) DOT Hazard Classification.
  - (c) CAS Registration Number.
  - (d) Chemical Name.
  
4. High wind and release into water table are examples of which data element?
  - (a) Cause of Release.
  - (b) Factors Contributing to Release.
  - (c) Factors Affecting Mitigation.
  - (d) Release Into.
  
5. To record the Estimated Container Capacity and the Estimated Amount Released what information is needed?
  - (a) Container Type.
  - (b) DOT Hazard Classification.
  - (c) Amount of materials.
  - (d) Units of measure.