

**TEXAS COMMISSION ON FIRE PROTECTION**  
**Hazardous Materials Awareness**  
Performance Standards

**GENERAL**

Recognition and Identification; Initiate Protective Actions; Notification

**Skill # 1**

**PERFORMANCE STANDARD**

**Section 601**

**NFPA 1072, 2017 edition, 4.2.1, 4.2.1(B), 4.3.1, 4.3.1(B), 4.4.1, 4.4.1(B) Awareness**

**OBJECTIVE**

Given examples of hazardous materials/WMD incidents, the emergency response plan, the standard operating procedures, and the current edition of the *Emergency Response Guidebook*, safety data sheets and shipping papers, awareness level personnel shall be able to recognize and identify the materials and protective actions to be taken to protect themselves and others and to control access to the scene and make notifications as required. The following requirements shall be met:

**4.2.1**

Recognize and identify the hazardous materials/WMD and hazards involved in a hazardous materials/WMD incident, given a hazardous materials/WMD incident, and approved reference sources, so that the presence of hazardous materials/WMD is recognized and the materials and their hazards are identified.

**4.2.1(B)**

Recognizing indicators to the presence of hazardous materials/WMD. Identifying hazardous materials/WMD by name, UN/NA identification number, placard applied, or container identification charts. Using the ERG, SDS, shipping papers with emergency response information, and other approved reference sources to identify hazardous materials/WMD and their potential fire, explosion, and health hazards

**4.3.1**

Isolate the hazard area and deny entry at a hazardous materials/WMD incident, given a hazardous materials/WMD incident, policies and procedures, and approved reference sources, so that the hazard area is isolated and secured, personal safety procedures are followed, hazards are avoided or minimized, and additional people are not exposed to further harm.

**4.3.1(B)**

Recognizing precautions for protecting responders and the public Identifying isolation areas, denying entry, and avoiding minimizing hazards.

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4.4.1

Initiate required notifications at a hazardous materials/WMD incident, given a hazardous materials/WMD incident, policies and procedures, and approved communications equipment, so that the notification process is initiated, and the necessary information is communicated.

4.4.1(B)

Operating approved communications equipment and communicating in accordance with policies and procedures.

**INSTRUCTIONS - procedures for achieving the objective**

Given the most current edition of the *Emergency Response Guidebook*, product safety data sheets and shipping papers, and a scenario or worksheet, you shall analyze, identify and describe, as may be required, the actions that are appropriate for the safe implementation of awareness level response measures.

You shall respond verbally or in the written form as may be appropriate. You shall communicate your findings and actions to dispatch (simulated) using approved communication devices. You will begin on my instruction to start. The skill will end when you state to me that you have completed all of the identified steps. Do you understand these instructions?

**EXAMINER'S NOTE**

The candidate will not be allowed to review the performance steps at the time of testing.

Provide the candidate with an incident scenario. This may be in the form of an actual staged scenario on the training field, a PowerPoint or multimedia presentation/video, or a photograph(s) with narratives.

Allow the candidate to analyze the scenario, they may use the ERG and applicable SDS, shipping papers, and other reference support material provided. The use of WISER on their personal electronic device (cell phone or tablet) is also acceptable.

The candidate may provide a written or verbal response, per the direction of the program coordinator. Their response must include:

1. Identification of the problem/hazard
2. Perform steps to isolation and secure the hazard area
3. Initiate the notification process to Local, State, and Federal response partners
4. A size-up report

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The verbal size-up report may be provided to the examiner by radio, cell phone, or simulated (face to face).

**PREPARATION & EQUIPMENT**

- *Emergency Response Guidebook (ERG)*, most current edition
- *Wireless Information System for Emergency Responders (WISER)*
- Safety data sheet(s) (SDS)
- Shipping papers
- Approved communication devices (Radio, cell phone, etc.)
- A written or audio/visual representation of a scene or scenario (i.e. PowerPoint Presentation) or an instructor prepared worksheet.

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**GENERAL**

Recognition and Identification; Initiate Protective Actions; Notification

**Skill #1**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS AWARENESS</b>	<b><u>TEST</u></b>		<b><u>RETEST</u></b>	
	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<p><b>Skill #1</b></p> <p>Recognize and identify the hazardous materials/WMD and hazards involved in a hazardous materials/WMD incident, given a hazardous materials/WMD incident, and approved reference sources, so that the presence of hazardous materials/WMD is recognized and the materials and their hazards are identified. 4.2.1</p> <p>Recognizing indicators to the presence of hazardous materials/WMD. Identifying hazardous materials/WMD by name, UN/NA identification number, placard applied, or container identification charts. Using the ERG, SDS, shipping papers with emergency response information, and other approved reference sources to identify hazardous materials/WMD and their potential fire, explosion, and health hazards. 4.2.1(B)</p> <p>Isolate the hazard area and deny entry at a hazardous materials/WMD incident, given a hazardous materials/WMD incident, policies and procedures, and approved reference sources, so that the hazard area is isolated and secured, personal safety procedures are followed, hazards are avoided or minimized, and additional people are not exposed to further harm. 4.3.1</p> <p>Recognizing precautions for protecting responders and the public Identifying isolation areas, denying entry, and avoiding minimizing hazards. 4.3.1(B)</p>				

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Initiate required notifications at a hazardous materials/WMD incident, given a hazardous materials/WMD incident, policies and procedures, and approved communications equipment, so that the notification process is initiated, and the necessary information is communicated. 4.4.1				
Operating approved communications equipment and communicating in accordance with policies and procedures. 4.4.1(B)				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Recognize indicators to the presence of hazardous materials/WMD.				
b) Identify hazardous materials/WMD by name, UN/NA identification number, placard applied, or container identification charts.				
c) Use the ERG, applicable SDS, shipping papers with emergency response information, and other approved reference sources to identify hazardous materials/WMD and their potential fire, explosion, and health hazards.				
d) Identify, isolate and secure the hazard area. <ul style="list-style-type: none"> <li>• Recognize precautions for protecting responders and public</li> <li>• Identify isolation areas</li> <li>• Deny entry</li> <li>• Avoid hazards</li> </ul>				
e) Initiate required notifications. <ul style="list-style-type: none"> <li>• AHJ (Local)</li> <li>• Regulatory agencies (State &amp; Federal)</li> <li>• Other response partners (i.e., Regional Hazmat Team, Mutual Aid, etc.)</li> </ul>				
f) Provide size-up report. (CAN Report) <ul style="list-style-type: none"> <li>• Conditions (product ID, container status, threats)</li> <li>• Actions (protective actions, ID isolation areas)</li> <li>• Needs (additional assistance needed/requested)</li> </ul>				
g) Operate approved communications equipment.				

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**S = Satisfactorily completed/performed**

**U = Unsatisfactorily performed/failed to meet performance objective**

**Evaluator/Candidate Comments:**

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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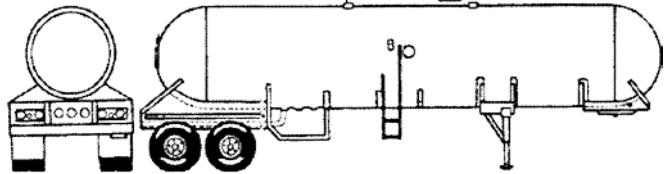
# Emergency Response Guidebook Worksheet

## Guidelines for Development and Use

- The following worksheet is an example of a instructor designed worksheet that could be used to test a firefighter trainee's ability to properly use an Emergency Response Guidebook during a Hazardous Materials response. This worksheet has been designed to be completed using the Emergency Response Guidebook in it's most current edition.
- The use of this worksheet would be suitable for training purposes. However, for skill examination purposes, it is expected that images, placards, UN numbers, and chemical names would be changed.
- This is not a single source solution skills examination evaluation. The development and use of a unique worksheet would be appropriate, acceptable, and encouraged.
- Minimum worksheet development guidelines should include the following minimal content items as a general rule:
  - Hazardous Materials identification by UN Number (Yellow Section)
  - Hazardous Materials identification by Chemical Name (Blue Section)
  - Identify the correct
  - The ability to derive information from the Emergency Action Guide pages (Orange Section) including:
    - Potential Fire and Explosion Hazards
    - Potential Health Hazards
    - Protective Clothing Selection
    - Evacuation Considerations
    - Firefighting Measures
    - Spill or Leak recommended control measures
    - Immediate First Aid actions
  - The identification of Isolation Distances and Protective Actions for Non-Toxic Inhalation Hazards (Orange Section)
  - The identification of Initial Isolation Distances and Downwind Protective Distances for Toxic Inhalation Hazards (Green Section)

Using the most current edition of the *Emergency Response Guidebook* solve the following problems:

1. What is the initial **isolation zone** and **downwind protective action distance** day and night when there is a small leak from the highway cargo tanker pictured here?




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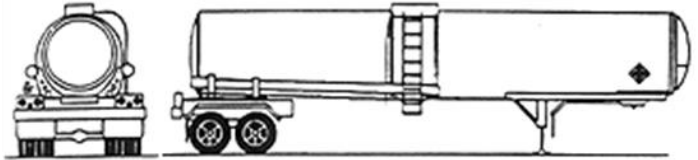


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2. What is the **primary hazard** of the product with the ID number **UN1824**?

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3. What type of **firefighting foam** should be used on a large spill fire involving the product in this highway cargo tanker? Are there **toxic effects** associated with this product?




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4. What type of protective clothing should be worn to handle a spill involving **Hydrofluoric acid, solution**?

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5. In case of accidental eye contact with **methanol**, what actions should you take?

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6. What are the recommended **extinguishing agents** for the product with this placard? What is this product?

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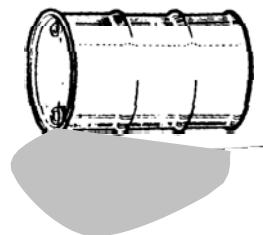


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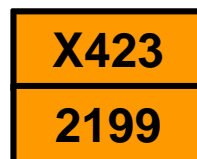
7. Which **guide number** should be used for the product spilled from the drum in this picture?



Guide Number: \_\_\_\_\_

8. Identify the **hazards and product name** of this display found on an intermodal container.

\_\_\_\_\_  
\_\_\_\_\_



9. What is the **recommended evacuation distance** if a truck load of explosives with this placard is involved in a fire?

\_\_\_\_\_  
\_\_\_\_\_



10. If **Styrene** is exposed to **excessive heat**, what may occur?

\_\_\_\_\_

11. What types of extinguishing agents should **not** be applied to fires involving **Perchloric acid UN1802**?

\_\_\_\_\_

12. What is Protective Clothing and Respiratory Protection recommendation for a response involving **Chloropicrin**?

\_\_\_\_\_

13. Which guide number should be used for emergency response information for a spill involving material with this placard?

Guide Number: \_\_\_\_\_



14. What are the emergency response telephone numbers for **CHEMTREC®** and the **NATIONAL RESPONSE CENTER (NRC)**?

NRC #: \_\_\_\_\_

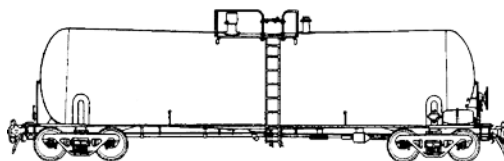
CHEMTREC#: \_\_\_\_\_

15. If water is leaking into a cargo hold of a barge containing **UN1830**, what may occur?

\_\_\_\_\_

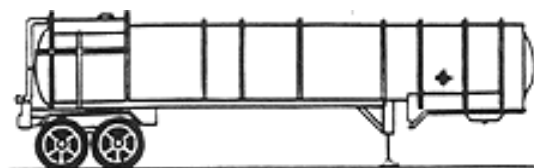
16. Which guide number would you use to find response information about the railcar pictured here?

Guide Number: \_\_\_\_\_

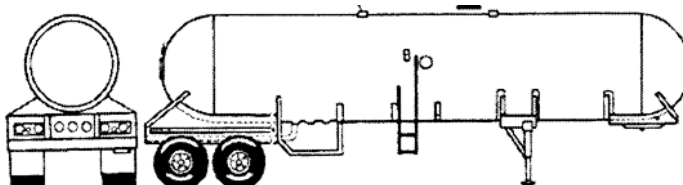


17. Which guide number would you use to find response information about the highway cargo tanker pictured here?

Guide Number: \_\_\_\_\_



18. If the highway cargo tanker pictured below is involved in a fire, what **sights or sounds** should cause an immediate withdrawal of emergency response personnel?



\_\_\_\_\_

19. If a container of the material with this placard is submerged in water, what Toxic-by-Inhalation (TIH) gas may be produced?

\_\_\_\_\_  
\_\_\_\_\_



20. Is **UN1053** a flammable gas? What is its primary hazard, fire or toxicity?

\_\_\_\_\_  
\_\_\_\_\_

21. If an unconscious person is contaminated with “Boron trifluoride, diethyl etherate” is mouth-to-mouth a recommended first-aid procedure?

**Guide** \_\_\_\_\_

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22. Why does “Propadiene, inhibited” have a “P” following the Guide Number in the blue-bordered Section?

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23. If a large amount of “sulfuryl chloride” is spilled into water, what is the initial isolation distance?

**UN Identification Number** \_\_\_\_\_

**Initial Isolation distance** \_\_\_\_\_.

24. What toxic gases may be produced by the reaction between sulfuryl chloride and water?

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25. What general safety precautions are recommended by the Emergency Response Guidebook?

1. \_\_\_\_\_.

2. \_\_\_\_\_.

3. \_\_\_\_\_.

4. \_\_\_\_\_.

5. \_\_\_\_\_.

6. \_\_\_\_\_.

7. \_\_\_\_\_.

8. \_\_\_\_\_.