



Emergency Response Guide Performance Measure

Facilitator Guide and Participant Worksheet

Contents

Directions on how to do the exercise

Student Worksheet

Answer keys for Hazardous Materials/Situations

Introduction

This exercise is designed to allow the instructor to choose a hazardous material that is relevant to the trainees. You can choose any one of the materials and situations included in this exercise.

Instructor Preparation

Pick one of the following situations and ID/Material that is relevant to the work situation of the trainees for the exercise.

Use	ID	Material Name/Container/Time of day
Welding, cutting	1001	Acetylene/150 lb. Cylinder/2 p.m.
Food proc, fertilizer	1005	Ammonia/Highway Tank Truck/wind<6 mph/2 a.m.
Food proc, fertilizer	1005	Ammonia/ Highway Tank Truck/wind<6 mph/2 p.m.
Water treatment	1017	Chlorine/150 lb. Cylinder/2 a.m.
Water treatment	1017	Chlorine/Highway Tank Truck/wind 6-12 mph/2 a.m.
Water treatment	1017	Chlorine/150 lb. Cylinder/2 p.m.
Water treatment	1017	Chlorine/Highway Tank Truck/wind 6-12 mph/2 p.m.
Hospital	1040	Ethylene oxide/150 lb. Cylinder/2 a.m.
Oil refinery catalyst	1052	Hydrogen Fluoride, anhydrous/Rail Tank car/ wind>12 mph/2 a.m.
Fuel	1075	Propane/150 lb. Cylinder/2 p.m.
Rail	1076	Phosgene/Rail Tank Car/2 a.m.
Rail	1076	Phosgene/Rail Tank Car/2 p.m.
Plastics mfg.	1086	Vinyl chloride, stabilized/Rail Tank Car/2 a.m.
Synthetic chemistry	1090	Acetone/Rail Tank Car/2 p.m.
Alternative fuels	1170	Ethanol/Drum/2 p.m.
Manufacturing, truck	1203	Gasoline/Highway Tank Truck/2 a.m.
Paint	1263	Paint (flammable)/Drum/2 a.m.
Paint	1294	Toluene/Drum/2 a.m.
Plating	1689	Sodium cyanide/Drum/2 a.m.
Plating	1689	Sodium cyanide/Drum/2 p.m.
Metal finishing	1789	Hydrochloric acid/Drum/2 p.m.
Disinfection	1791	Hypochlorite solution (Sodium hypochlorite)/Drum/ 2 p.m.
Food production	1805	Phosphoric acid, liquid/Drum/2 p.m.
Water treatment	1824	Caustic soda solution/Drum/2 a.m.
Rail	1830	Sulfuric acid/Rail Tank Car/2 a.m.
Manufacturing, truck	1830	Sulfuric acid/Highway Tank Truck/2 p.m.
Dry cleaning, mfg	1897	Perchloroethylene/Drum/2 p.m.

Hospitals, manufacturing	2014	Hydrogen peroxide/Drum/2 p.m.
Plastics mfg	2055	Styrene monomer/Drum/2 p.m.
Fertilizer	2067	Ammonium nitrate fertilizer/Rail Tank Car/2 a.m.
Cleanup	2315	PCB/Drum (waste)/2 p.m.
Pesticide, cleanup	2758	Carbamate pesticide, liquid, flammable, Poisonous/Drum/2 p.m.
Mfg/health care	2809	Mercury/No container (small spill)/2 p.m.
Cleanup	3077	Hazardous waste, solid, n.o.s./Roll-Off Box/ 2 a.m.
Manufacturing	3480	Lithium Ion Battery/Crate/2 p.m.

NOTES:

1. If you want participants to use the **green pages** of the ERG (special evacuation and water reactive TIH), select an *italicized* ID number.
2. If you want participants to use **Table 3**, choose a large spill of Ammonia, Chlorine or Hydrogen Fluoride.
3. If you want to include **BLEVE** safety precautions, choose Propane.

Review the answer key from this Instructor Guide for the material you have selected to assure that it is accurate.

Assemble enough Emergency Response Guidebooks (hard copy or electronic) and Worksheets for each trainee. Extra Worksheets may be needed, if trainees want to record the correct answer for their future use.

Conducting the exercises

This is a performance measure to be completed by each trainee. Review the ERG, following the instructor guidance for the program you are teaching.

Distribute the Worksheets and Guidebooks. Provide the trainees with the situation, and have them complete the Worksheet in about 15 minutes.

Collect the Worksheets for grading. Please note that, for evacuation at small spills of materials without italicized ID numbers, the user is instructed to “increase, in the downwind direction, as necessary, the isolation distance shown under “PUBLIC SAFETY” the answer shown is “xxx+ ft.”, where “xxx ft.” is the value given under “PUBLIC SAFETY”. Participants may note “N/A”, “it depends”, “no value provided”.

In sections 5 and 6, an attempt has been made to give all relevant answers from the ERG. Trainees have been instructed to “list up to three”.

Review the correct answers as a class activity. Some trainees may wish to have another Worksheet to record the answers.

Grading the Worksheets

Review the entries of all participants and grade the worksheets.

What to do with the worksheets after grading

This exercise is part of “successful completion” for the program, and the results must be reported to NIEHS. Please forward the material used and the grades to UC Evaluation Services Center.

What to do if errors are found

If you find an error, please inform Tim Hilbert at hilbertj@ucmail.uc.edu so that it can be updated.

Emergency Response Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for this exercise.)

ID Number: _____

Container: Rail Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):** _____

Instructions: Using the information in the Emergency Response Guide, answer the following questions, providing all significant information.

1. The substance is: _____

2. a. The Guide Number to consult for more information is: _____
b. The Guide Title is: _____

3. The distance to allow for each of the following (feet or miles) is:
a. Isolation: _____ b. Evacuation: _____

4. The primary hazard is: a. Health b. Fire

5. Major fire or explosion hazards due to this type of material include (list up to 3):

6. Potential health effects from exposure to this material include (list up to 3):

7. What respiratory protection is recommended for responses to this material?

Emergency Response Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: **1001**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Acetylene, dissolved**
2.
 - a. The Guide number that should be consulted for more information is: **116**
 - b. The Guide title is **Gases – Flammable (Unstable)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **330 ft.**
 - b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **EXTREMELY FLAMMABLE.**
 - Will be easily ignited by heat, sparks or flames.
 - Will form explosive mixtures with air.
 - May react explosively even in the absence of air
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Vapors may travel to source of ignition and flash back.
 - Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - Vapors may cause dizziness or asphyxiation without warning.
 - Some may be toxic if inhaled at high concentrations.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire may produce irritating and/or toxic gases.
7. What respiratory protection is recommended for responses to this material?
Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1005**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):** <6 mph

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Ammonia, anhydrous**
2.
 - a. The Guide number that should be consulted for more information is: **125**
 - b. The Guide title is **Gases-Toxic and/or corrosive**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **500 ft.**
 - b. Evacuation **1.3 miles**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some may burn but none ignite readily.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Some of these materials may react violently with water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
 - At high concentrations in confined spaces, presents flammability risk if a source of ignition is introduced
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
 - Vapors are extremely irritating and corrosive.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution control water may cause environmental contamination
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: 1005

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):** <6 mph

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Ammonia, anhydrous**

2.
 - a. The Guide number that should be consulted for more information is: **125**

 - b. The Guide title is **Gases-Toxic and/or corrosive**

3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **500 ft.**
 - b. Evacuation **0.6 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire

5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some may burn but none ignite readily.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Some of these materials may react violently with water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
 - At high concentrations in confined spaces, presents flammability risk if a source of ignition is introduced

6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
 - Vapors are extremely irritating and corrosive.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution control water may cause environmental contamination

7. What respiratory protection is recommended for responses to this material?
Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: 1017

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Chlorine**
2. a. The Guide number that should be consulted for more information is: **124**
b. The Guide title is **Gases-Toxic and/or Corrosive-Oxidizing**
3. The distance to allow for each of the following (feet or miles) is:
a. Isolation **200 ft.** b. Evacuation **0.9 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Substance does not burn but will support combustion.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
 - May ignite combustibles (wood, paper, oil, clothing, etc.).
 - Some will react violently with air, moist air and/or water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled or absorbed through skin.**
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1017**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):** 6 – 12 mph

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Chlorine**
2.
 - a. The Guide number that should be consulted for more information is: **124**
 - b. The Guide title is **Gases-Toxic and/or Corrosive-Oxidizing**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **2000 ft.**
 - b. Evacuation **3.1 miles**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Substance does not burn but will support combustion.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
 - May ignite combustibles (wood, paper, oil, clothing, etc.).
 - Some will react violently with air, moist air and/or water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled or absorbed through skin.**
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1017**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Chlorine**
2. a. The Guide number that should be consulted for more information is: **124**
 b. The Guide title is **Gases-Toxic and/or Corrosive-Oxidizing**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **200 ft.** b. Evacuation **0.2 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Substance does not burn but will support combustion.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
 - May ignite combustibles (wood, paper, oil, clothing, etc.).
 - Some will react violently with air, moist air and/or water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled or absorbed through skin.**
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1017**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):** 6 – 12 mph

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Chlorine**
2. a. The Guide number that should be consulted for more information is: **124**
 b. The Guide title is **Gases-Toxic and/or Corrosive-Oxidizing**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **2000 ft.** b. Evacuation **2.1 miles**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Substance does not burn but will support combustion.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
 - May ignite combustibles (wood, paper, oil, clothing, etc.).
 - Some will react violently with air, moist air and/or water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled or absorbed through skin.**
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1040**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Ethylene oxide**
2.
 - a. The Guide number that should be consulted for more information is: **119P (P indicates material may polymerize explosively when heated or involved in a fire.)**
 - b. The Guide title is **Gases-Toxic-Flammable**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **100 ft.**
 - b. Evacuation **0.2 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Flammable; may be ignited by heat, sparks or flames.
 - May form explosive mixtures with air. May react explosively even in the absence of air.
 - Those substances designated with a **(P)** may polymerize explosively when heated or involved in a fire.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Vapors may travel to source of ignition and flash back.
 - Some of these materials may react violently with water.
 - Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices.
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
 - Runoff may create fire or explosion hazard.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled or absorbed through skin. Some may cause severe skin burns and eye damage.**
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: 1076

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Phosgene**
2.
 - a. The Guide number that should be consulted for more information is: **125**
 - b. The Guide title is **Gases-Toxic and/or corrosive**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **1500 ft.**
 - b. Evacuation **5.7 miles**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some may burn but none ignite readily.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Some of these materials may react violently with water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
 - Vapors are extremely irritating and corrosive.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1076**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Phosgene**
2. a. The Guide number that should be consulted for more information is: **125**
 b. The Guide title is **Gases-Toxic and/or Corrosive**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **1500 ft.** b. Evacuation **1.8 miles**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some may burn but none ignite readily.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Some of these materials may react violently with water.
 - Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
 - Vapors are extremely irritating and corrosive.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may cause environmental environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1203**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Gasoline**
2. a. The Guide number that should be consulted for more information is: **128**
 b. The Guide title is **Flammable Liquids (Water-Immiscible)**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **1000 ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water
 - Substance may be transported hot
 - For hybrid vehicles, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.
 - **If molten aluminum is involved, refer to GUIDE 169.**
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1263**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Paint (flammable)**
2. a. The Guide number that should be consulted for more information is: **128**
 b. The Guide title is **Flammable Liquids (Water-Immiscible)**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water.
 - Substance may be transported hot.
 - For hybrid vehicles, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.
 - **If molten aluminum is involved, refer to GUIDE 169.**
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1294**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Toluene**
2.
 - a. The Guide number that should be consulted for more information is: **130**
 - b. The Guide title is **Flammable Liquids (Water-Immiscible/Noxious)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water.
6. Potential health effects from exposure to this material are (list up to three):
 - May cause toxic effects if inhaled or absorbed through skin.
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1689**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Sodium cyanide, solid**
2. a. The Guide number that should be consulted for more information is: **157**
 b. The Guide title is **Substances-Toxic and/or Corrosive (Non-Combustible/Water-Sensitive)**
3. The distance to allow for each of the following (feet or miles) is: **(when spilled in water)**
 a. Isolation **100 ft.** b. Evacuation **0.1 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
 - Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff.
 - Contact with metals may evolve flammable hydrogen gas
 - Containers may explode when heated or if contaminated with water.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
 - Reaction with water or moist air may release toxic, corrosive or flammable gases.
 - Reaction with water may generate much heat that will increase the concentration of fumes in the air.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1689**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Sodium cyanide, solid**
2. a. The Guide number that should be consulted for more information is: **157**
 b. The Guide title is **Substances-Toxic and/or Corrosive (Non-Combustible/Water-Sensitive)**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **0.1 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
 - Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff.
 - Contact with metals may evolve flammable hydrogen gas
 - Containers may explode when heated or if contaminated with water.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
 - Reaction with water or moist air may release toxic, corrosive or flammable gases.
 - Reaction with water may generate much heat that will increase the concentration of fumes in the air.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1789**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Hydrochloric acid**
2.
 - a. The Guide number that should be consulted for more information is: **157**
 - b. The Guide title is **Substances-Toxic and/or Corrosive (Non-Combustible/Water-Sensitive)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
 - Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff.
 - Contact with metals may evolve flammable hydrogen gas.
 - Containers may explode when heated or if contaminated with water.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
 - Reaction with water or moist air may release toxic, corrosive or flammable gases.
 - Reaction with water may generate much heat that will increase the concentration of fumes in the air.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may be corrosive and/or toxic and environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1824**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Caustic soda, solution**
2.
 - a. The Guide number that should be consulted for more information is: **154**
 - b. The Guide title is **Substances-Toxic and/or Corrosive (Non-Combustible)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).
 - Contact with metals may evolve flammable hydrogen gas.
 - Containers may explode when heated.
 - For electric vehicles or equipment, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
 - Contact with molten substance may cause severe burns to skin and eyes.
 - Avoid any skin contact.
 - Effects of contact or inhalation may be delayed.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1830**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Sulfuric acid**
2. a. The Guide number that should be consulted for more information is: **137**
 b. The Guide title is **Substances/Water-Reactive/Corrosive**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some of these materials may burn, but none ignite readily.
 - May ignite combustibles (wood, paper, oil, clothing, etc.).
 - Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff.
 - Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
 - Contact with metals may evolve flammable hydrogen gas.
 - Containers may explode when heated or if contaminated with water.
 - Substance may be transported in a molten form.
6. Potential health effects from exposure to this material are (list up to three):
 - CORROSIVE and/or TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Reaction with water may generate much heat that will increase the concentration of fumes in the air.
 - Contact with molten substance may cause severe burns to skin and eyes.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1830**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Sulfuric acid**
2. a. The Guide number that should be consulted for more information is: **137**
 b. The Guide title is **Substances/Water-Reactive/Corrosive**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some of these materials may burn, but none ignite readily.
 - May ignite combustibles (wood, paper, oil, clothing, etc.).
 - Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff.
 - Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
 - Contact with metals may evolve flammable hydrogen gas.
 - Containers may explode when heated or if contaminated with water.
 - Substance may be transported in a molten form.
6. Potential health effects from exposure to this material are (list up to three):
 - CORROSIVE and/or TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Reaction with water may generate much heat that will increase the concentration of fumes in the air.
 - Contact with molten substance may cause severe burns to skin and eyes.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1897**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Perchloroethylene**
2. a. The Guide number that should be consulted for more information is: **160**
 b. The Guide title is **Halogenated Solvents**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some of these materials may burn, but none ignite readily.
 - Most vapors are heavier than air.
 - Air/vapor mixtures may explode when ignited.
 - Container may explode in heat of fire.
6. Potential health effects from exposure to this material are (list up to three):
 - Toxic by ingestion.
 - Vapors may cause dizziness or asphyxiation.
 - Exposure in an enclosed area may be very harmful.
 - Contact may irritate or burn skin and eyes.
 - Fire may produce irritating and/or toxic gases.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 2014**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Hydrogen peroxide, aqueous solution, with not less than 20% but not more than 60% Hydrogen peroxide (stabilized as necessary)**

2. a. The Guide number that should be consulted for more information is: **140**

b. The Guide title is **Oxidizers**

3. The distance to allow for each of the following (feet or miles) is:

a. Isolation **150 ft.** b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire

NOTE: In general, the primary hazard due to Oxidizers is Fire. For that reason, the Potential Hazards due to Fire are listed first in Guide 140. However, in this case, the oxidizer is dissolved in water, and is unlikely to catch fire. You would not find that out just by reading the guide.

5. Major fire or explosion hazards due to this type of material are (list up to three):

- These substances will accelerate burning when involved in a fire.
- Some may decompose explosively when heated or involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

6. Potential health effects from exposure to this material are (list up to three):

- Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause environmental contamination.

7. What respiratory protection is recommended for responses to this material?

Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)*ID Number: **2055**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. Wind Speed (if applicable):

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Styrene monomer, stabilized**
2.
 - a. The Guide number that should be consulted for more information is: **128P (P indicates material may polymerize explosively when heated or involved in a fire.)**
 - b. The Guide title is **Flammable Liquids (Water-Immiscible)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Those substances designated with a **(P)** may polymerize explosively when heated or involved in a fire.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water.
 - Substance may be transported hot.
 - For hybrid vehicles, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.
 - **If molten aluminum is involved, refer to GUIDE 169.**
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 2067**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Ammonium nitrate based fertilizer**

2. a. The Guide number that should be consulted for more information is: **140**

b. The Guide title is **Oxidizers**

3. The distance to allow for each of the following (feet or miles) is:

a. Isolation **150 ft.** b. Evacuation **330 ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire

5. Major fire or explosion hazards due to this type of material are (list up to three):

- These substances will accelerate burning when involved in a fire.
- Some may decompose explosively when heated or involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

6. Potential health effects from exposure to this material are (list up to three):

- Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause environmental contamination.

7. What respiratory protection is recommended for responses to this material?

Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 2315**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **PCB**
2.
 - a. The Guide number that should be consulted for more information is: **171**
 - b. The Guide title is **Substances (Low to Moderate Hazard)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire

NOTE: In general, the primary hazard due to Substances (Low to Moderate Hazard) is Fire. For that reason, the Potential Hazards due to Fire are listed first in Guide 171. However, in this case, PCB is highly unlikely to catch fire. As a suspected carcinogen, its primary hazard is due to Health. You would not find that out just by reading the guide.

5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Some may burn but none ignite readily.
 - Containers may explode when heated.
 - Some may be transported hot.
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation of material may be harmful.
 - Contact may cause burns to skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Some liquids produce vapors that may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)*ID Number: **2758**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. Wind Speed (if applicable):

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Carbamate pesticide, liquid, flammable, poisonous.**
2.
 - a. The Guide number that should be consulted for more information is: **131**
 - b. The Guide title is **Flammable Liquids-Toxic**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.
4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion and poison hazard indoors, outdoors or in sewers.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
 - Inhalation or contact with some of these materials will irritate or burn skin and eyes.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: **3077**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. Wind Speed (if applicable):

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Hazardous waste, solid, n.o.s.**

2. a. The Guide number that should be consulted for more information is: **171**

b. The Guide title is **Substances (Low to Moderate Hazard)**

3. The distance to allow for each of the following (feet or miles) is:

a. Isolation **75 ft.** b. Evacuation **75+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire

5. Major fire or explosion hazards due to this type of material are (list up to three):

- Some may burn but none ignite readily.
- Containers may explode when heated.
- Some may be transported hot.

6. Potential health effects from exposure to this material are (list up to three):

- Inhalation of material may be harmful.
- Contact may cause burns to skin and eyes.
- Inhalation of Asbestos dust may have a damaging effect on the lungs.
- Fire may produce irritating, corrosive and/or toxic gases.
- Some liquids produce vapors that may cause dizziness or asphyxiation.
- Runoff from fire control may cause environmental contamination.

7. What respiratory protection is recommended for responses to this material?

Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1090**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Acetone**
2. a. The Guide number that should be consulted for more information is: **127**
 b. The Guide title is **Flammable Liquids (Water-Miscible)**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **1000 ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water.
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1170**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Ethanol**
2. a. The Guide number that should be consulted for more information is: **127**
 b. The Guide title is **Flammable Liquids (Water-Miscible)**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **150 ft.** b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. CAUTION: Ethanol can burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)**
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks, etc.).
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Runoff to sewer may create fire or explosion hazard.
 - Containers may explode when heated.
 - Many liquids are lighter than water.
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control may cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1052**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):** >12 mph

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Hydrogen Fluoride, anhydrous**

2. a. The Guide number that should be consulted for more information is: **125**

b. The Guide title is **Gases-Toxic and/or Corrosive**

3. The distance to allow for each of the following (feet or miles) is:

a. Isolation **1500 ft.** b. Evacuation **1.2 miles**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire

5. Major fire or explosion hazards due to this type of material are (list up to three):

- Some may burn but none ignite readily.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

6. Potential health effects from exposure to this material are (list up to three):

- **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
- Vapors are extremely irritating and corrosive.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause environmental contamination.

7. What respiratory protection is recommended for responses to this material?

Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1805**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Phosphoric acid, solution**
2.
 - a. The Guide number that should be consulted for more information is: **154**
 - b. The Guide title is **Substances-Toxic and/or Corrosive (Non-Combustible)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Contact with metals may evolve flammable hydrogen gas.
 - Containers may explode when heated.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
 - Contact with molten substance may cause severe burns to skin and eyes
 - Avoid any skin contact.
 - Effects of contact or inhalation may be delayed.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1075**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Propane**
2. a. The Guide number that should be consulted for more information is: **115**
 b. The Guide title is **Gases-Flammable (Including Refrigerated Liquids)**
3. The distance to allow for each of the following (feet or miles) is:
 a. Isolation **330 ft.** b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

NOTE: If a fire is involved, then the listed Isolation and Evacuation distances will need to be changed to those reflected in the ERG. A 150 lb. cylinder has a capacity of 38.6 gallons and a propane mass of 88 pounds.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **EXTREMELY FLAMMABLE.**
 - Will be easily ignited by heat, sparks or flames.
 - Will form explosive mixtures with air.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Vapors may travel to source of ignition and flash back.
 - Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - Vapors may cause dizziness or asphyxiation without warning.
 - Some may be irritating if inhaled at high concentrations.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire may produce irritating and/or toxic gases.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1791**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Hypochlorite solution (Sodium hypochlorite)**
2.
 - a. The Guide number that should be consulted for more information is: **154**
 - b. The Guide title is **Substances-Toxic and/or Corrosive (Non-Combustible)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **150 ft.**
 - b. Evacuation **150+ ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.)
 - Contact with metals may evolve flammable hydrogen gas.
 - Containers may explode when heated.
6. Potential health effects from exposure to this material are (list up to three):
 - **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
 - Contact with molten substance may cause severe burns to skin and eyes.
 - Avoid any skin contact.
 - Effects of contact or inhalation may be delayed.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Emergency Response Guide Performance Measure*(Instructor will provide ID number, container type, and time of day for your use on this exercise.)***ID Number: 1086**

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
 Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Vinyl chloride, stabilized**
2.
 - a. The Guide number that should be consulted for more information is: **116P (P indicates material may polymerize explosively when heated or involved in a fire)**
 - b. The Guide title is **Gases-Flammable (Unstable)**
3. The distance to allow for each of the following (feet or miles) is:
 - a. Isolation **330 ft.**
 - b. Evacuation **1/2 mile**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to:
 - a. Health
 - b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - **EXTREMELY FLAMMABLE.**
 - Will be easily ignited by heat, sparks or flames.
 - Will form explosive mixtures with air.
 - Those substances designated with a **(P)** may polymerize explosively when heated or involved in a fire.
 - Vapors from liquefied gas are initially heavier than air and spread along ground.
 - Vapors may travel to source of ignition and flash back.
 - Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
 - Containers may explode when heated.
 - Ruptured cylinders may rocket.
6. Potential health effects from exposure to this material are (list up to three):
 - Vapors may cause dizziness or asphyxiation without warning.
 - Some may be toxic if inhaled at high concentrations.
 - Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
 - Fire may produce irritating and/or toxic gases.
7. What respiratory protection is recommended for responses to this material?
 Wear positive pressure self-contained breathing apparatus (SCBA).

Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: 2809

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Mercury**
2. a. The Guide number that should be consulted for more information is: **172**
b. The Guide title is **Gallium and Mercury**
3. The distance to allow for each of the following (feet or miles) is:
a. Isolation **150 ft.** b. Evacuation **N/A**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - Non-Combustible
 - Runoff may pollute waterways.
6. Potential health effects from exposure to this material are (list up to three):
 - Inhalation of vapors or contact with substance will result in contamination and potential harmful effects.
 - Fire will produce irritating, corrosive and/or toxic gases.
7. What respiratory protection is recommended for responses to this material?
Wear positive pressure self-contained breathing apparatus (SCBA).

Guide Performance Measure

(Instructor will provide ID number, container type, and time of day for your use on this exercise.)

ID Number: 3480

Container: Rail Tank Car Highway Tank Truck 150 lb. Cylinder Drum
Roll-Off Box Crate

Time of Day: 2 a.m. 2 p.m. **Wind Speed (if applicable):**

Instructions: Using the information in the *Emergency Response Guide*, answer the following questions, providing all significant information.

1. The substance is (you need to give only one name): **Lithium ion batteries**
2. a. The Guide number that should be consulted for more information is: **147**
b. The Guide title is **Lithium Ion Batteries**
3. The distance to allow for each of the following (feet or miles) is:
a. Isolation **75 ft.** b. Evacuation **330 ft.**

Use low end of range for small release, high end of range for larger release. If the distance cannot be determined or is not given in the Guide, put "N/A" for answer.

4. The primary hazard is due to: a. Health b. Fire
5. Major fire or explosion hazards due to this type of material are (list up to three):
 - May vent, ignite and produce sparks when subjected to high temperatures, when damaged or abused (e.g., mechanical damage or electrical overcharging).
 - May burn rapidly with flare-burning effect.
 - May ignite other batteries in close proximity.
6. Potential health effects from exposure to this material are (list up to three):
 - Contact with battery electrolyte may be irritating to skin, eyes and mucous membranes.
 - Fire will produce irritating, corrosive and/or toxic gases.
 - Burning batteries may produce toxic hydrogen fluoride gas (see GUIDE 125).
 - Fumes may cause dizziness or asphyxiation.
7. What respiratory protection is recommended for responses to this material?
Wear positive pressure self-contained breathing apparatus (SCBA).