



## **24-hour Hazardous Waste Site Worker Exercise Guide**

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Midwest Consortium for Hazardous Waste Worker Training

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## **Introduction to HAZWOPER**

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### **Exercise - Using HAZWOPER**

First go to the HAZWOPER standard and find 29 CFR 1920.120(e)(3)(i). Then, answer the following questions.

1. Does this definition fit your job?    Yes    or    No

2. Based on this paragraph, what training is required?

## **Rights and Responsibilities**

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### **Exercise - Rights and Responsibilities**

The following set of questions is intended to see how much you already know about worker and employer safety and health rights and responsibilities. For each of the following questions, answer “True” (“T”) or “False” (“F”), using your current understanding of the law. Your instructor will review the correct answers to each of these questions at the end of this section.

- |        |   |
|--------|---|
| T or F | 1. The employer must pay for all health and safety equipment required by OSHA standards.  |
| T or F | 2. OSHA can fine workers for violating OSHA standards.  |
| T or F | 3. The employer doesn't have to correct problems cited by OSHA until all legal Appeals are exhausted.   |
| T or F | 4. OSHA violations can be issued when workplace hazards are causing serious physical harm.  |
| T or F | 5. If OSHA conducts an inspection of the work site, the union or employee representatives must be paid for time they spend on the walk-around, according to OSHA regulations. |
| T or F | 6. OSHA has the right to enter the workplace and conduct an inspection at any time, whether the employer wants it or not.   |
| T or F | 7. The “general duty clause” can be used by OSHA if a serious hazard exists but no specific safety and health standard covers the problem.                                    |
| T or F | 8. According to the OSHAct, the employer and the employees have an equal duty to provide a safe and healthful workplace.  |
| T or F | 9. If employers receive an OSHA citation, they must appeal it within a certain number of days or the citation becomes final.  |
| T or F | 10. The OSHA 300A form must be posted during the months of February, March, and April and presents the annual summary of recordable employee injuries.                        |

## Exercise - Regulations and Agencies

### Situation

You are a member of an employer-employee safety and health committee. The committee has decided to review all employer safety and health programs to make certain that they meet or exceed all existing safety and health regulations. You have made up a list of questions or concerns, and your job is now to check them out and report back to the entire committee.

### Instructions

You will now meet as a committee to go through the following checklist to determine:

- What set(s) of regulations apply.
- Where you would go to obtain copies or more information about those regulations.

Record your answers below. Someone in your small group should act as spokesperson and report back to the class.

### Areas for Investigation

1. What regulations might govern respirators for routine or emergency use?
2. Your facility is located near a Great Lake port. Who would you notify if an accidental release occurred?
3. Where could you find regulations which govern the safe handling of 55-gallon drums that contain hazardous materials?
4. List as completely as possible which regulations govern training of workers.
5. Where will Material Safety Data Sheets be kept to allow employee access?
6. Which employees must receive medical examinations, and who pays for them?
7. To what safety and health records does an employee have access upon request?
8. List three other concerns at hazardous waste sites and the agency you would contact for information.

## Toxicology and Health Effects

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### Exercise – Responses to Exposures

Think for a moment about responses you have experienced to exposures that may have occurred at home or during work or other activities. List them in the table below:

| Chemical/Exposure/Activity | Response |
|----------------------------|----------|
|                            |          |
|                            |          |
|                            |          |
|                            |          |
|                            |          |
|                            |          |
|                            |          |
|                            |          |

## Exercise – Using the NIOSH Pocket Guide to Find Occupational Exposure Limits

Complete the following worksheet for the same chemical for which you looked up chemical properties earlier.

### NIOSH Pocket Guide Exercise #4 Worksheet

|  |  |
|--|--|
| Chemical name  |  |
| NIOSH exposure limits (REL)                                    |  |
| OSHA exposure limits (PEL)                                     |  |
| IDLH level   |  |
| Is it a carcinogen?  |  |
| List four symptoms of exposure:                                |  |
|  |  |
|  |  |
| What would you do if it got on your skin?                      |  |
| What parts of the body are affected by exposure?               |  |
| What occupational exposure limit was not listed?               |  |
| Where would you look to find that occupational exposure limit? |  |

## Respiratory Protective Equipment

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### Exercise - Respirator Protection Factor

Working in groups, perform the following calculations:

1. You are working where the industrial hygienist has been sampling the area for chlorobenzene. What is the MUC for a full facepiece SCBA in demand mode?

APF for respirator\_\_\_\_\_

PEL for chemical\_\_\_\_\_

IDLH for chemical\_\_\_\_\_

MUC for the combination of respirator and chemical\_\_\_\_\_

2. You are working when a leak occurs which has an ammonia concentration of 3,500 ppm. What is the minimum type of respiratory protection that can be *safely* used?

Airborne concentration\_\_\_\_\_

PEL for chemical\_\_\_\_\_

IDLH for chemical\_\_\_\_\_

Type of respirator\_\_\_\_\_

.



## Exercise – Respiratory Protection Scenarios

You have been assigned and fit tested for a full-face APR by your employer. In the following two situations, determine whether you will have adequate protection working in the Hot Zone. Working in groups, explain your answers in the space provided.

### Scenario 1

The industrial hygienist has made a reading of 750 ppm of methyl chloride. Should you feel safe wearing your full-face APR into the Hot Zone? Explain your answer

PEL \_\_\_\_\_

IDLH \_\_\_\_\_

APF \_\_\_\_\_

.

### Scenario 2

The industrial hygienist has found readings of 200 ppm of N,N-Dimethylaniline in the hot zone. Should you feel comfortable wearing your full-face APR in the Hot Zone? Explain your answer.

PEL \_\_\_\_\_

IDLH \_\_\_\_\_

APF \_\_\_\_\_

## Exercise - Levels of PPE

This exercise will allow you to apply knowledge gained from this section to a “real-life” situation. The exercise involves determining what level of PPE would be required for different situations. Although you will usually be provided specific PPE selected by the safety and health officer, this exercise gives you an opportunity to determine the basic level of protection which is needed.

For each situation, state the appropriate level of PPE and the reason for your decision. If you believe additional information is needed, list it.

1. At XYZ Dumpgrounds, 15 barrels are unearthed and identified as dioxane. What level of protection should be used to remove the barrels?
2. Spent chlorine cylinders are being off-loaded from a semi into a staging area. What level of protection should be worn?
3. You are to do initial decontamination of a pump and piping area “crusted over” with corrosion before the millwrights begin dismantling the unit. What level of protection is needed?
4. You are scheduled to clean an empty culvert, where oxygen concentrations have been measured at 18% in the past. What level of protection should be worn?
5. You are assisting the safety coordinator with monitoring air concentrations around a waste lagoon, and you are told to draw the necessary equipment from the tool crib area. What PPE and safety equipment are needed?
6. You are moving 55-gallon drums of hydrochloric acid. During the past two days, workers have reported that the drum integrity is poor. What level of protection should be worn?

## **Chemical Properties**

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### **Exercise – Using the NIOSH Pocket Guide (NPG) to Find Chemical Properties**

Your instructor will provide you with a list of several chemicals and the concentration measured in air. Use the table on the following page to list important information on each chemical from the NPG. Use one table for each chemical. Which chemical is of greatest concern? Why?

**Chemical name:**

**Measured concentration:**

|   |  |
|---|--|
| Synonyms and Trade Names  |  |
| CAS Number  |  |
| Physical Description  |  |
| BP  |  |
| VP  |  |
| Fl.P.   |  |
| UEL   |  |
| LEL   |  |
| RGasD   |  |
| Incompatibilities & Reactivities  |  |
| Look at the line above<br>"Incompatibilities & Reactivities"<br>in the NPG. What information is<br>there? |  |

## **Material Identification, Physical and Safety Hazards**

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### **Exercise – What do these terms mean? (HCS)**

In this activity, you will use the HCS2012 to find definitions used in the new requirements for labels. In a small group, work with the standard to find definitions of terms shown on the next page, Worksheet. Label Terms Defined. Think about how the new terms will help you understand HCS2012 and potential workplace hazards. Report the definitions your group found and how the information will be used. Keep the definitions at hand as you complete other activities.

Worksheet: Label Terms Defined

| <b>Term</b>             | <b>Definition</b> | <b>Why is this important?<br/><u>AND/OR</u><br/>How will you use this in the<br/>workplace?</b> |
|-------------------------|-------------------|---|
| Precautionary Statement |                   |   |
| Signal Word             |                   |   |
| Product Identifier      |                   |   |
| Hazard Statement        |                   |   |
| Label Element           |                   |   |
| Hazardous Chemical      |                   |   |
| Label                   |                   |   |
| Pictogram               |                   |   |

## Exercise - Pictograms

This exercise makes use of the OSHA Quick Card, Hazard Communication Standard Pictogram, on the next page. This is an important summary resource that you should look back to when the labels appear in your workplace.










In your group, make a list of any term associated with a pictogram that you want more information to understand. For example, 'What is target organ toxicity?'. Work with your group, other group members and the facilitator to find the answer to questions.

Worksheet: Pictogram Terms

| Term | Definition |
|------|------------|
|      |            |
|      |            |
|      |            |
|      |            |
|      |            |

## Hazard Communication Standard Pictogram

The Hazard Communication Standard (HCS) requires pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

| HCS Pictograms and Hazards   |  |  |
|--|--|--|
| <b>Health Hazard</b><br><br><ul style="list-style-type: none"> <li>▪ Carcinogen</li> <li>▪ Mutagenicity</li> <li>▪ Reproductive Toxicity</li> <li>▪ Respiratory Sensitizer</li> <li>▪ Target Organ Toxicity</li> <li>▪ Aspiration Toxicity</li> </ul> | <b>Flame</b><br><br><ul style="list-style-type: none"> <li>▪ Flammables</li> <li>▪ <u>Pyrophorics</u></li> <li>▪ Self-Heating</li> <li>▪ Emits Flammable Gas</li> <li>▪ <u>Self-Reactives</u></li> <li>▪ Organic Peroxides</li> </ul> | <b>Exclamation Mark</b><br><br><ul style="list-style-type: none"> <li>▪ Irritant (skin and eye)</li> <li>▪ Skin Sensitizer</li> <li>▪ Acute Toxicity</li> <li>▪ Narcotic Effects</li> <li>▪ Respiratory Tract Irritant</li> <li>▪ Hazardous to Ozone Layer (Non-Mandatory)</li> </ul> |
| <b>Gas Cylinder</b><br><br><ul style="list-style-type: none"> <li>▪ Gases Under Pressure</li> </ul>  | <b>Corrosion</b><br><br><ul style="list-style-type: none"> <li>▪ Skin Corrosion/Burns</li> <li>▪ Eye Damage</li> <li>▪ Corrosive to Metals</li> </ul>  | <b>Exploding Bomb</b><br><br><ul style="list-style-type: none"> <li>▪ Explosives</li> <li>▪ <u>Self-Reactives</u></li> <li>▪ Organic Peroxides</li> </ul>  |
| <b>Flame Over Circle</b><br><br><ul style="list-style-type: none"> <li>▪ Oxidizers</li> </ul>   | <b>Environment (Non-Mandatory)</b><br><br><ul style="list-style-type: none"> <li>▪ Aquatic Toxicity</li> </ul>  | <b>Skull and Crossbones</b><br><br><ul style="list-style-type: none"> <li>▪ Acute Toxicity (fatal or toxic)</li> </ul>  |

For more information:



Occupational  
Safety and Health  
Administration

U.S. Department of Labor

[www.osha.gov](http://www.osha.gov) (800) 321-OSHA (6742)

OSHA 3491-02 2012



## Exercise – Labels

Using the OSHA Quick Card: Sample Label on the next page, examine several labels and determine if they comply with HCS2012 requirements. The labels may be found on Worksheet: Labels, following the Quick Card, or may be pictures of labels from your workplace.

Make notes below each label of any missing label elements. (Use the Quick Card as a resource.)

Using a sample label or a label from your workplace, complete Worksheet: Where is health and safety information on the label?, to show where specific information is found. Work in small groups to find the information and complete the Worksheet. Be prepared to share during a report-back.



## Hazard Communication Standard Labels

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard (HCS). As of June 1, 2015, all labels will be required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown on the right. Supplemental information can also be provided on the label as needed.

For more information:

[www.osha.gov](http://www.osha.gov)



(800) 321-OSHA (6742)

### SAMPLE LABEL

#### PRODUCT IDENTIFIER

CODE:

Product Name:

#### SUPPLIER IDENTIFICATION

Company Name \_\_\_\_\_ Street

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Postal Code \_\_\_\_\_

Country \_\_\_\_\_ Emergency Phone

Number \_\_\_\_\_

#### PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.

Keep away from heat/sparks/open flame. No smoking.

Only use non-sparking tools.

Use explosion-proof electrical equipment.

Take precautionary measure against static discharge.

Ground and bond container and receiving equipment.

Do not breathe vapors.

Wear Protective gloves.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Dispose of in accordance with local, regional, national, international regulations as specified.

**In Case of Fire:** use dry chemical (BC) or Carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish.

#### First Aid

If exposed call Poison Center.

If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

#### HAZARD PICTOGRAMS



#### SIGNAL WORD

Danger

#### HAZARD STATEMENT

Highly flammable liquid and vapor.  
May cause liver and kidney damage.

#### SUPPLEMENTAL INFORMATION

Directions for use: \_\_\_\_\_

Fill weight:

Lot Number

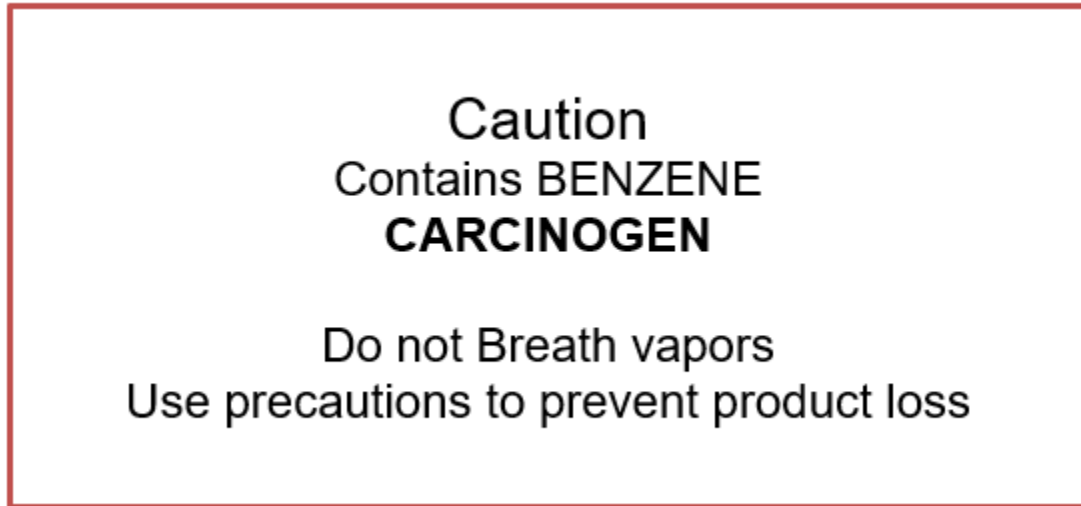
Gross weight:

Fill Date:

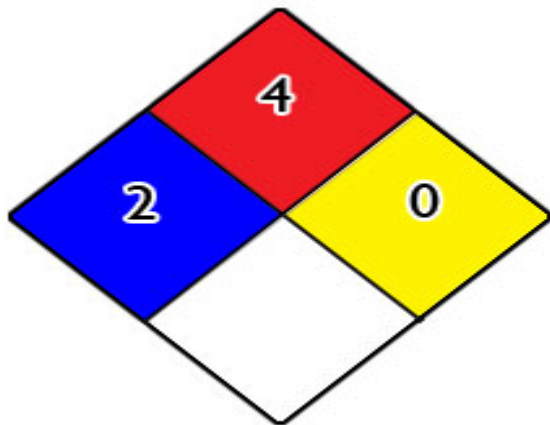
Expiration Date:

Worksheet: Labels

Label 1



Label 2





Worksheet: Labels (cont.)

Label 3



Label 4

|  |   |
|--|---|
|   | <p><b>ToxiFlam (Contains: XYZ)</b></p> <p><b>Danger! Toxic If Swallowed, Flammable Liquid and Vapor</b></p>  |
| <p>Do not eat, drink or use tobacco when using this product. Wash hands thoroughly after handling. Keep container tightly closed. Keep away from heat/sparks/open flame. – No smoking. Wear protective gloves and eye/face protection. Ground container and receiving equipment. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Store in cool/well-ventilated place.</p> <p><b>IF SWALLOWED:</b> Immediately call a POISON CONTROL CENTER or doctor/physician. Rinse mouth.</p> <p>In case of fire, use water fog, dry chemical, CO<sub>2</sub>, or “alcohol” foam.</p> <p>See Material Safety Data Sheet for further details regarding safe use of this product</p> <p>MyCompany, MyStreet, MyTown, NJ 00000, Tel: 444 999 9999</p> |   |

Label 5



Worksheet: Where is health and safety information on the label?

| Type of information                                       | Label Element (s) | Answer |
|---|-------------------|--------|
| What is the appropriate firefighting agent?               |                   |        |
| Is a respirator needed?                                   |                   |        |
| What is the hazard?                                       |                   |        |
| What PPE is needed?                                       |                   |        |
| Are there storage requirements?                           |                   |        |
| Do I need special tools?                                  |                   |        |
| Is there a contact, if needed?                            |                   |        |
| What is the product?                                      |                   |        |
| What action is needed if someone is splashed on the skin? |                   |        |

## **Exercise – Placards and Labels**

The instructor will form small groups and provide each group with placards and labels. Answer the following questions:

1. What is the name of the chemical or hazardous waste?
2. What does the placard or label tell you about the chemical?
3. What are the physical hazards of the substance—explosion, fire, reactive, oxidizing material, etc.?
4. What are the health hazards?
5. What target organs does this chemical affect?
6. What are the safe handling recommendations?
7. What personal protective equipment is recommended to limit worker exposure?
8. Is First Aid information given? What is it?
9. Is the chemical volatile? What is the vapor pressure and vapor density?

## **Exercise – Content of the SDS**

In this exercise, you will use Appendix D of the HCS2012 standard (next 3 pages) to find out what minimum information is required in each of the 16 sections of the SDS.



## Appendix D to 29 CFR 1910.1200. Minimum Information for an SDS

| #  | Heading  | Subheading  |
|----|--|---|
| 1. | <b>Identification</b>                          | <p>(a) Product identifier used on the label;</p> <p>(b) Other means of identification;</p> <p>(c) Recommended use of the chemical and restrictions on use;</p> <p>(d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party;</p> <p>(e) Emergency phone number.</p>  |
| 2. | <b>Hazard(s) identification</b>                | <p>(a) Classification of the chemical in accordance with paragraph (d) of §1910.1200;</p> <p>(b) Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200. (Hazard symbols may be provided as graphical reproductions in black and white or the name of the symbol, e.g., flame, skull and crossbones);</p> <p>(c) Describe any hazards not otherwise classified that have been identified during the classification process;</p> <p>(d) Where an ingredient with unknown acute toxicity is used in a mixture at a concentration = 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity is required.</p>  |
| 3. | <b>Composition/ information on ingredients</b> | <p>Except as provided for in paragraph (i) of §1910.1200 on trade secrets:</p> <p><b>For Substances</b></p> <p>(a) Chemical name;</p> <p>(b) Common name and synonyms;</p> <p>(c) CAS number and other unique identifiers;</p> <p>(d) Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.</p> <p><b>For Mixtures</b></p> <p>In addition to the information required for substances:</p> <p>(a) The chemical name and concentration (exact percentage) or concentration ranges of all ingredients which are classified as health hazards in accordance with paragraph (d) of §1910.1200 and</p> <ol style="list-style-type: none"> <li>(1) are present above their cut-off/concentration limits; or</li> <li>(2) present a health risk below the cut-off/concentration limits.</li> </ol> <p>(b) The concentration (exact percentage) shall be specified unless a trade secret claim is made in accordance with paragraph (i) of §1910.1200, when there is batch-to-batch variability in the production of a mixture, or for a group of substantially similar mixtures (See A.0.5.1.2) with similar chemical composition. In these cases, concentration ranges may be used.</p> <p><b>For All Chemicals Where a Trade Secret is Claimed</b></p> <p>Where a trade secret is claimed in accordance with paragraph (i) of §1910.1200, a statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.</p> |

| #  | Heading                                      | Subheading   |
|----|--|--|
| 4. | <b>First-aid measures</b>                    | (a) Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;<br>(b) Most important symptoms/effects, acute and delayed.<br>(c) Indication of immediate medical attention and special treatment needed, if necessary.  |
| 5. | <b>Fire-fighting measures</b>                | (a) Suitable (and unsuitable) extinguishing media.<br>(b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).<br>(c) Special protective equipment and precautions for fire-fighters.   |
| 6. | <b>Accidental release measures</b>           | (a) Personal precautions, protective equipment, and emergency procedures.<br>(b) Methods and materials for containment and cleaning up.  |
| 7. | <b>Handling and storage</b>                  | (a) Precautions for safe handling.<br>(b) Conditions for safe storage, including any incompatibilities.  |
| 8. | <b>Exposure controls/personal protection</b> | (a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.<br>(b) Appropriate engineering controls.<br>(c) Individual protection measures, such as personal protective equipment.  |
| 9. | <b>Physical and chemical properties</b>      | (a) Appearance (physical state, color, etc.);<br>(b) Odor;<br>(c) Odor threshold;<br>(d) pH;<br>(e) Melting point/freezing point;<br>(f) Initial boiling point and boiling range;<br>(g) Flash point;<br>(h) Evaporation rate;<br>(i) Flammability (solid, gas);<br>(j) Upper/lower flammability or explosive limits;<br>(k) Vapor pressure;<br>(l) Vapor density;<br>(m) Relative density;<br>(n) Solubility(ies);<br>(o) Partition coefficient: n-octanol/water;<br>(p) Auto-ignition temperature;<br>(q) Decomposition temperature;<br>(r) Viscosity. |

| #   | Heading  | Subheading  |
|-----|--|---|
| 10. | <b>Stability and reactivity</b>  | (a) Reactivity;<br>(b) Chemical stability;<br>(c) Possibility of hazardous reactions;<br>(d) Conditions to avoid (e.g., static discharge, shock, or vibration);<br>(e) Incompatible materials;<br>(f) Hazardous decomposition products.   |
| 11. | <b>Toxicological information</b>   | Description of the various toxicological (health) effects and the available data used to identify those effects, including:<br>(a) Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);<br>(b) Symptoms related to the physical, chemical and toxicological characteristics;<br>(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure;<br>(d) Numerical measures of toxicity (such as acute toxicity estimates).<br>(e) Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA. |
| 12. | <b>Ecological information (Non-mandatory)</b>                            | (a) Ecotoxicity (aquatic and terrestrial, where available);<br>(b) Persistence and degradability;<br>(c) Bioaccumulative potential;<br>(d) Mobility in soil;<br>(e) Other adverse effects (such as hazardous to the ozone layer).   |
| 13. | <b>Disposal considerations (Non-mandatory)</b>                           | Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.   |
| 14. | <b>Transport information (Non-mandatory)</b>                             | (a) UN number;<br>(b) UN proper shipping name;<br>(c) Transport hazard class(es);<br>(d) Packing group, if applicable;<br>(e) Environmental hazards (e.g., Marine pollutant (Yes/No));<br>(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code);<br>(g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.  |
| 15. | <b>Regulatory information (Non-mandatory)</b>                            | Safety, health and environmental regulations specific for the product in question.  |
| 16. | <b>Other information, including date of preparation or last revision</b> | The date of preparation of the SDS or the last change to it.  |

### **Exercise – Using an SDS to Find Safety Information**

Your instructor will provide SDSs for chemical(s) of interest. Use the SDS to find the information requested in the worksheet on the next page.

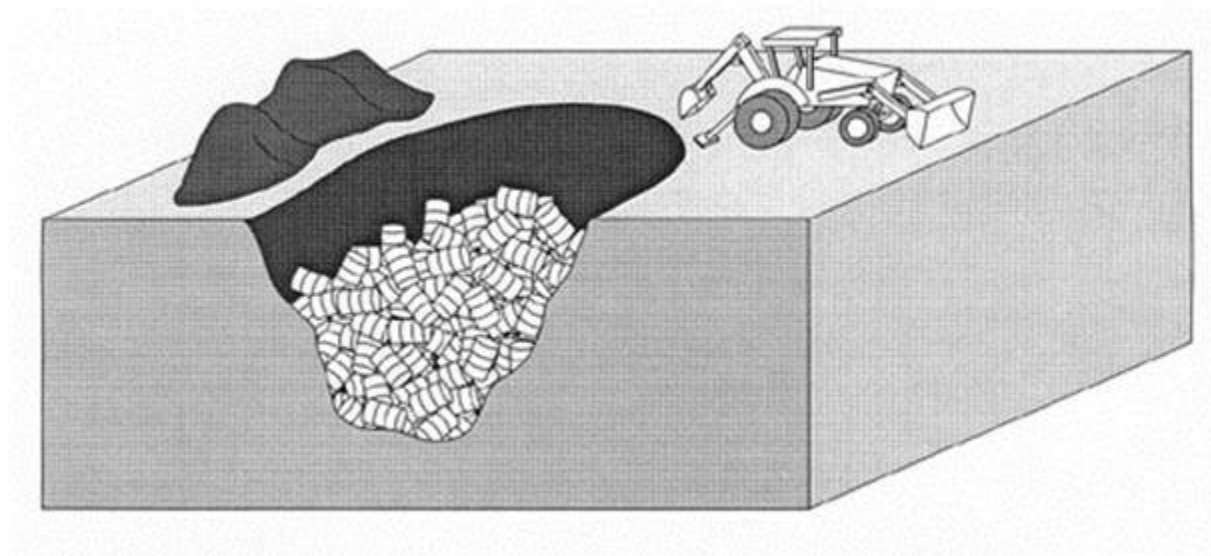
## Worksheet – Information in an SDS

| Type of information   | Section | Answer/Information |
|---|---------|--------------------|
| What is the appropriate firefighting agent?                             |         |                    |
| What is the physical form of the hazard?                                |         |                    |
| Is a respirator needed?   |         |                    |
| What is the allowable workplace exposure (PEL or TLV)?                  |         |                    |
| What is the hazard?   |         |                    |
| What PPE is needed?   |         |                    |
| Show information from two different sections that must be on the label. |         |                    |
| Are there storage requirements?   |         |                    |
| Do I need special tools?  |         |                    |
| Is there a contact, if needed?  |         |                    |
| What is the product?  |         |                    |
| Is there an acute health effect?  |         |                    |
| What action is need if someone is splashed on the skin?                 |         |                    |

## Exercise - Hazard Recognition Scenario

This exercise may be performed in small groups

You arrive at a hazardous waste site to work. You are told that drums were buried 30–40 years ago and covered with soil. The soil in the center of the site has been removed.



You have been told that several drums are leaking. Vapors have been sampled and identified. The information is shown below.

| Chemical   | Vapor Pressure (mmHg) | Vapor Density |
|------------|-----------------------|---------------|
| Acetone    | 180                   | 2.0           |
| Chloroform | 160                   | 4.1           |
| Benzene    | 75                    | 2.7           |

What hazards will you be concerned about?

## Monitoring

---

### Exercise - Monitoring

During this exercise, you will have the opportunity to use a combustible-gas indicator, indicator tubes, and an oxygen meter. There are three stations, in which you will:

1. Measure ethyl alcohol with a combustible-gas indicator at three distances: 1 inch, 6 inches, and 2 feet.
2. Measure ammonia with indicator tubes at three distances: 1 inch, 6 inches, and 2 feet.
3. Exhale into an empty bag and measure the percent oxygen in the bag.

Use the sampling data sheets on the following pages to record your readings from the instruments.

Name \_\_\_\_\_

### Monitoring Lab Data Sheet

Station 1: \_\_\_\_\_

Type of equipment \_\_\_\_\_

Brand of equipment \_\_\_\_\_

Purpose of equipment \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

What are the limitations of this equipment?

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_



Name \_\_\_\_\_

### Monitoring Lab Data Sheet

Station 2: \_\_\_\_\_

Type of equipment \_\_\_\_\_

Brand of equipment \_\_\_\_\_

Purpose of equipment \_\_\_\_\_

|                  |                          |                           |
|------------------|--------------------------|---------------------------|
| Sample No. _____ | Reading (in units) _____ | Distance (in units) _____ |
|------------------|--------------------------|---------------------------|

|                  |                          |                           |
|------------------|--------------------------|---------------------------|
| Sample No. _____ | Reading (in units) _____ | Distance (in units) _____ |
|------------------|--------------------------|---------------------------|

|                  |                          |                           |
|------------------|--------------------------|---------------------------|
| Sample No. _____ | Reading (in units) _____ | Distance (in units) _____ |
|------------------|--------------------------|---------------------------|

|                  |                          |                           |
|------------------|--------------------------|---------------------------|
| Sample No. _____ | Reading (in units) _____ | Distance (in units) _____ |
|------------------|--------------------------|---------------------------|

|                  |                          |                           |
|------------------|--------------------------|---------------------------|
| Sample No. _____ | Reading (in units) _____ | Distance (in units) _____ |
|------------------|--------------------------|---------------------------|

|                  |                          |                           |
|------------------|--------------------------|---------------------------|
| Sample No. _____ | Reading (in units) _____ | Distance (in units) _____ |
|------------------|--------------------------|---------------------------|

What are the limitations of this equipment?

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

### Monitoring Lab Data Sheet

Station 3: \_\_\_\_\_

Type of equipment \_\_\_\_\_

Brand of equipment \_\_\_\_\_

Purpose of equipment \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

Sample No. \_\_\_\_\_ Reading (in units) \_\_\_\_\_ Distance (in units) \_\_\_\_\_

What are the limitations of this equipment?

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

## Work Practices

---

### Exercise – Design an SOG

Take 30 minutes to discuss the questions below for your assigned work practice and record your ideas. One member of your group should be prepared to report the ideas to the entire class.

Work Practice:

1. Describe situations where this work practice may be used and/or needed at a hazardous waste site.
2. What sources of information, outside of the SOG, will be needed?
3. What are the hazards?
4. In an ideal world, what steps should be included in an SOP for this work practice?
5. What PPE will be necessary?
6. What safety and health hazards will be prevented by following this SOP?

## Hazard Control

---

### Exercise - Hazard Control

When you were hired for site work, the supervisor may have explained the types of activities that would be done. Using this knowledge and your previous work experience, discuss in a small group what some of the hazards might be on a hazardous waste site and some possible methods of controlling each hazard. Record your ideas in the space provided below. One member of the group should be prepared to report back to the class.

| Hazard | Control Methods |
|--------|-----------------|
|        |                 |
|        |                 |
|        |                 |
|        |                 |
|        |                 |
|        |                 |
|        |                 |
|        |                 |
|        |                 |

## **Emergency Response**

---

### **Exercise – What should be done?**

In this exercise, participants will use a mock (for training purposes only) ERP provided by the program to identify appropriate actions for the following scenarios:

1. You see one person in Level A down and the buddy with hands at her throat.
2. An excavator operator in the Cold Zone has just backed through a pipe providing natural gas to the incinerator.
3. You and three others are surveying the perimeter when Fred is bitten by a snake. Someone heard a rattle, but the snake was not seen.
4. You have been onsite for a month and are at the entrance taking a break during the first hot day of the season, and are approached by the local TV crew that just arrived to see what is going on because a neighbor called regarding the dust coming from the site.
5. A backhoe has just overturned in the Hot Zone. The operator appears injured.
6. A load of clean fill is being dumped when you notice a red plastic bag.
7. The emergency alarm sounds.
8. A dike holding drainage water from the pit has ruptured and is flowing toward the school.

## APPENDIX

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### Exercises for 16-hour Bridge to 40H

|  |    |
|--|----|
| Exercise: Respiratory Protection Lab         | 37 |
| Exercise: PPE Lab                            | 44 |
| Exercise: Work Practices Labs                | 50 |
| Exercise: Suit up and Decon                  | 57 |
| Site Simulation and Critique                 |    |
| Exercise: Waste Site Simulation and Critique | 64 |

Note that any participant who will participate in hands-on exercise involving donning/doffing of supplied air respiratory protection must be evaluated by a health care professional using the fitness-for-training exam.

## **Exercise – Respiratory Protection Lab**

The purpose of this laboratory is to give you the opportunity to wear and become familiar with SCBAs, air-purifying respirators (APRs), egress units, and equipment cleaning and inspection procedures. This lab is broken down into four rotating stations:

1. Donning and doffing SCBA
2. Fit testing an APR
3. Inspecting and cleaning respirators
4. Wearing an airline with escape unit

Copies of Lab Performance Checklists for this exercise are provided on the following pages. However, the instructor may hand out duplicates of these checklists which you will complete, have signed by the instructor, and turn in at the end of the lab. The training center retains this information with your other training records. Therefore, you may want to record your lab results separately for your personal records.

Name: \_\_\_\_\_

**Respiratory Protection Lab Performance Checklist**  
**Station 1: Donning and Doffing an SCBA**

1. What brand of SCBA and size of facepiece did you wear?

Brand \_\_\_\_\_ Size \_\_\_\_\_

2. Please list the brands and sizes of facepieces you tried that could not pass the negative-pressure user check.

Brand \_\_\_\_\_ Size \_\_\_\_\_

Brand \_\_\_\_\_ Size \_\_\_\_\_

Brand \_\_\_\_\_ Size \_\_\_\_\_

3. Before donning the SCBA, did you check your:

a. Cylinders?----- ☐ Yes ☐ No

b. Alarm? ----- ☐ Yes ☐ No

c. Regulator gauge? ----- ☐ Yes ☐ No

d. Straps? ----- ☐ Yes ☐ No

4. Did you don the SCBA as you were instructed?----- ☐ Yes ☐ No

5. While wearing the SCBA, did you:

a. Check the bypass valve?----- ☐ Yes ☐ No

b. Wear the SCBA for at least 7 minutes?----- ☐ Yes ☐ No

c. Try to communicate with your buddy?----- ☐ Yes ☐ No



Name: \_\_\_\_\_

**Respiratory Protection Lab Performance Checklist Station 1 (cont.):  
Donning and Doffing an SCBA**

6. While wearing the SCBA, did you do an assigned task? ----- ☐ Yes ☐ No

If yes, describe the  
task: \_\_\_\_\_

\_\_\_\_\_

7. After doffing the SCBA, did you:

a. Extend the harness straps? ----- ☐ Yes ☐ No

b. Extend the facepiece straps? ----- ☐ Yes ☐ No

c. Clean the facepiece? ----- ☐ Yes ☐ No

d. Check the cylinder? ----- ☐ Yes ☐ No

i. Did the cylinder need to be changed? ----- ☐ Yes ☐  
No

ii. If yes, did you have it changed? ----- ☐ Yes ☐  
No

8. How long did you wear the SCBA? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name: \_\_\_\_\_

Respiratory Protection Lab Performance Checklist  
Station 2: Fit testing an APR

1. Please check any of the following items that you wear.

☐ Prescription glasses

☐ Dentures

☐ A beard

☐ Contact lenses

☐ Hairstyle that prohibits a good face seal

2. Did you do a negative-pressure user check? ☐ Yes ☐ No

3. Did you do a positive-pressure user check? ☐ Yes ☐ No

4. Did you go into a test chamber? ☐ Yes ☐ No

If yes, which type of chamber?

☐ "Banana oil"

☐ Smoke

☐ Both

☐ Other

5. What brand and size of air-purifying respirator did you wear?

Brand \_\_\_\_\_ Size \_\_\_\_\_

Full-face \_\_\_\_\_ Half-face \_\_\_\_\_

Name: \_\_\_\_\_

Respiratory Protection Lab Performance Checklist Station 2 (cont.):

Fit testing an APR

6. Please list the brands and sizes of respirators you tried that could not pass the fit test.

Brand \_\_\_\_\_ Size \_\_\_\_\_

Brand \_\_\_\_\_ Size \_\_\_\_\_

Brand \_\_\_\_\_ Size \_\_\_\_\_

Brand \_\_\_\_\_ Size \_\_\_\_\_

7. Did you wash your respirator during this lab?----- ☐ Yes ☐ No

If yes, check the supplies that you used.

☐ Towelette

☐ Wash basin

☐ Other

8. How long did you wear the respirator? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Respiratory Protection Lab Performance Checklist  
Inspecting and Cleaning Respirators

Daily Maintenance of Your Respirator:

1. Did the instructor tell you how to wash your respirator?----- ☐ Yes ☐ No
2. Did you clean your respirator? -----☐ Yes ☐ No
3. Did you see a disassembled respirator and all its parts? -----☐ Yes ☐ No  
If yes, did someone in the lab reassemble the respirator? -----☐ Yes ☐ No
4. Did someone in your lab inspect a respirator? -----☐ Yes ☐ No
5. Were defects found during the inspection?----- ☐ Yes ☐ No

If yes, describe the defects: \_\_\_\_\_

\_\_\_\_\_

OSHA-Required Inspections of SCBA:

6. Was the inspection procedure that must be done at least once per month described? -----☐ Yes ☐ No
7. Were you shown the hydrostatic test date? -----☐ Yes ☐ No
8. Did you see someone demonstrate inspection of an SCBA according to the manufacturer's guidelines? -----☐ Yes ☐ No

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Respiratory Protection Lab Performance Checklist  
Wearing an Air Line with Escape Unit

1. Did the station leader demonstrate how to hook up and use the unit? --- ☐ Yes ☐  
No

2. Did the station leader demonstrate how to switch to the 5-minute escape bottle?  
----- ☐ Yes ☐  
No

3. Did one of the trainees in the lab wear an egress unit? ----- ☐ Yes ☐  
No

4. Did you wear the unit? ----- ☐ Yes ☐  
No

5. Did a trainee who wore the egress unit switch to the 5-minute escape bottle?  
----- ☐ Yes ☐  
No

6. Please indicate which level of protection is provided by an airline egress unit.

☐ A

☐ B

☐ C

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

## **Exercise - PPE Lab**

The following laboratory provides an opportunity to:

1. Don and doff Level A protection.
2. Don and doff Level B protection.
3. Don and doff Level C protection.
4. Inspect and maintain PPE.

Copies of Lab Performance Checklists for this exercise are provided here; however, the instructor will hand out duplicates of these checklists which you will complete, have signed by the instructor, and turn in at the end of the lab. The training center retains this information with your other training records. Therefore, you may want to record your lab results in your manual for your personal records.

Name: \_\_\_\_\_

Buddy's Name: \_\_\_\_\_

## PPE Performance Checklist

### Station 1: Donning and Doffing Level A

#### Preparing to Don the Equipment

1. List the size that you chose for each of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

- a. Disposable suit                      Size \_\_\_\_\_
- b. SCBA Facepiece                      Size \_\_\_\_\_ Brand \_\_\_\_\_
- c. Level A training suit                Size \_\_\_\_\_
- d. Boots                                      Size \_\_\_\_\_
- e. Inner gloves                            Size \_\_\_\_\_
- f. Outer gloves                            Size \_\_\_\_\_
- g. Hard hat                                Size = adjustable

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

2. Did you inspect the equipment before donning it? ..... ☐ Yes ☐ No

3. Did you and your buddy help each other get dressed? ..... ☐ Yes ☐ No

#### Donning the Equipment

4. Did you do a negative-pressure user check of your facepiece? ..... ☐ Yes ☐ No

5. Did you check the SCBA by-pass valve before you put on Level A?.. ☐ Yes ☐ No

6. Did your buddy ask if you could breathe OK before your suit was closed?  
..... ☐ Yes ☐ No

Name: \_\_\_\_\_

Buddy's Name: \_\_\_\_\_

### PPE Performance Checklist

#### Station 1: Donning and Doffing Level A (Continued)

##### Hooked to Air in Level A

7. Did your buddy check your suit's sealing points (zipper, cuff, ted.) after your suit was closed? ..... ☐ Yes ☐ No

No

8. Did you and your buddy review the communications system after your suit was closed? ..... ☐ Yes ☐ No

9. Did you withdraw your hand from the sleeve of the suit and turn on the SCBA emergency by-pass valve? ..... ☐ Yes ☐ No

10. Did you have to withdraw your hand and defog your face shield? ☐ Yes ☐ No

11. Did you do an assigned task? ..... ☐ Yes ☐ No

If yes, describe the task: \_\_\_\_\_

---

##### Doffing the Equipment

12. Did you touch the outside of your suit as it was being removed? .... ☐ Yes ☐ No

13. Did you remove your inner gloves properly? ..... ☐ Yes ☐ No

14. Did you dry your suit as instructed? ..... ☐ Yes ☐ No

15. After doffing the SCBA, did you:

a. Extend the harness straps? ..... ☐ Yes ☐ No

b. Extend the facepiece straps? ..... ☐ Yes ☐ No

c. Clean the facepiece? ..... ☐ Yes ☐ No

d. Check the cylinder? ..... ☐ Yes ☐ No

If yes, did the cylinder need to be changed? ..... ☐ Yes ☐ No

If yes, did you change it or have it changed? ..... ☐ Yes ☐ No

16. How long did you stay in Level A? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_



Name: \_\_\_\_\_

Buddy's Name: \_\_\_\_\_

### PPE Performance Checklist

#### Station 2: Donning and Doffing Level B

1. List the size that you chose for each of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

- a. Chemical-protective clothing      Size \_\_\_\_\_
- b. Air-purifying respirator      Size \_\_\_\_\_ Brand \_\_\_\_\_
- c. Boots      Size \_\_\_\_\_
- d. Inner gloves      Size \_\_\_\_\_
- e. Outer gloves      Size \_\_\_\_\_
- f. Hard hat      Size = adjustable

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment

\_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment

\_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment

\_\_\_\_\_ Size \_\_\_\_\_

2. Did you inspect the equipment before donning it? ..... ☐ Yes ☐ No

3. Did your buddy:

- a. Make pull tabs when taping your boots/pants? ..... ☐ Yes ☐ No
- b. Make pull tabs when taping your gloves/sleeves? ..... ☐ Yes ☐ No
- c. Review the communications system with you? ..... ☐ Yes ☐ No

4. Did you do an assigned task? ..... ☐ Yes ☐ No

If yes, describe the task: \_\_\_\_\_

5. After doffing the SCBA, did you:

- a. Extend the harness straps? ..... ☐ Yes ☐ No
- b. Extend the facepiece straps? ..... ☐ Yes ☐ No
- c. Clean the facepiece? ..... ☐ Yes ☐ No
- d. Check the cylinder? ..... ☐ Yes ☐ No

If yes, did the cylinder need to be changed? ..... ☐ Yes ☐ No

If yes, did you change it, or have it changed? ..... ☐ Yes ☐ No

6. How long did you stay in Level B? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Buddy's Name: \_\_\_\_\_

### PPE Performance Checklist

#### Station 3: Donning and Doffing Level C

1. List the size that you chose for each of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

Chemical-protective clothing    Size \_\_\_\_\_  
Air-purifying respirator        Size \_\_\_\_\_ Brand \_\_\_\_\_  
Boots                                Size \_\_\_\_\_  
Inner gloves                      Size \_\_\_\_\_  
Outer gloves                      Size \_\_\_\_\_  
Hard hat                          Size = adjustable

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

2. Did you inspect the equipment before donning it? ..... ☐ Yes ☐ No
3. Did your buddy:
- a. Make pull tabs when taping your boots/pants? ..... ☐ Yes ☐ No
- b. Make pull tabs when taping your gloves/sleeves? ..... ☐ Yes ☐ No
- c. Review the communications system with you? ..... ☐ Yes ☐ No
4. Did you do an assigned task? ..... ☐ Yes ☐ No
- If yes, describe the task: \_\_\_\_\_

5. Did you take off the suit in a manner that would protect you and the other workers around you from contamination? ..... ☐ Yes ☐ No
6. Did you remove your inner gloves properly? ..... ☐ Yes ☐ No
7. When removing your respirator:
- a. Were you wearing your inner gloves? ..... ☐ Yes ☐ No
- b. Did you extend your facepiece straps? ..... ☐ Yes ☐ No
- c. Did you wash the respirator? ..... ☐ Yes ☐ No
8. How long did you stay in Level C? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Buddy's Name: \_\_\_\_\_

### PPE Performance Checklist

#### Station 4: Inspection and Maintenance of PPE

1. Did the instructor tell you how to wash your respirator? ☐ Yes ☐ No
2. Did you clean your respirator? ☐ Yes ☐ No
3. Were inspection procedures described for:
  - a. Boots? ☐ Yes ☐ No
  - b. Outer gloves? ☐ Yes ☐ No
  - c. Hard hats?
  - d. Reusable suits?
  - e. Did you inspect the gloves? ☐ Yes ☐ No
  - f. Did you find defects in the gloves? ☐ Yes ☐ NoIf yes, describe the defects: \_\_\_\_\_
- g. Did you inspect the suit? ☐ Yes ☐ No
- h. Did he/she find defects in the reusable suit? ☐ Yes ☐ No
- If yes, describe the defects: \_\_\_\_\_
4. Did you observe the leak-test procedure for a Level A suit? ☐ Yes ☐ No
5. Did you see the repair kit for the Level A suit? ☐ Yes ☐ No

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

## **Exercise - Work Practices Labs**

The class will be divided into small groups for this lab. All the following exercises may be employed, or the instructor may tailor the exercises to the needs of the participants. Each group will rotate through the stations:

1. Manual Drum Sampling
2. Drum Patching and Plugging
3. Confinement
4. Confined Space Entry
5. Overpacking
6. Drum Handling

The instructor at each station will describe the problem, provide additional materials, and answer questions. Complete the Lab Performance Checklists provided by your instructor for each station, then have the instructor review and sign them. These checklists will be retained by the training center as part of your training records. The checklists provided in the next six pages are for your records if you want to complete them.

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

## **Work Practices Lab Performance Checklist Station 1: Manual Drum Sampling**

| <b>Action</b>   | <b>Completed/Observed</b>    |                             |
|---|------------------------------|-----------------------------|
| 1. Elected a leader. ....                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Selected appropriate materials from available supplies. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Properly donned PPE. ....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Worked in a manner to minimize contamination. ....           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Inspected drum for condition and labels. ....                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Ensured transfer technique did not cause contamination. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Maintained Buddy System. ....                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Requested SOP. ....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

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

|                               |                               |                              |                             |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| <b>Other Actions Observed</b> | <b>Was Contact Minimized?</b> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|

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

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### **Work Practices Lab Performance Checklist Station 2: Drum Patching and Plugging**

| <b>Action</b>   | <b>Completed/Observed</b>    |                             |
|---|------------------------------|-----------------------------|
| 1. Elected a leader. ....                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Selected appropriate materials from available supplies. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Properly donned PPE. ....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Worked in a manner to minimize contamination. ....           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Inspected drum for condition and labels. ....                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Ensured transfer technique did not cause contamination. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Maintained Buddy System. ....                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Requested SOP. ....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

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

**Other Actions Observed** **Was Contact Minimized?** ☐ Yes ☐ No

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

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### **Work Practices Lab Performance Checklist Station 3: Confinement**

| <b>Action</b>   | <b>Completed/Observed</b>    |                             |
|---|------------------------------|-----------------------------|
| 1. Elected a leader. ....                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Selected appropriate materials from available supplies. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Properly donned PPE. ....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Worked in a manner to minimize contamination. ....           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Inspected drum for condition and labels. ....                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Ensured transfer technique did not cause contamination. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Maintained Buddy System. ....                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Requested SOP. ....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

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

**Other Actions Observed**

**Was Contact Minimized?**    ☐ Yes    ☐ No

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

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

**Work Practices Lab Performance Checklist**  
**Station 4: Confined-Space Entry**

| Permit # | Enter? | Justify the Answer. |
|----------|--------|---------------------|
|----------|--------|---------------------|

|   |  |  |
|---|--|--|
| 1 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
|---|--|--|

|   |  |  |
|---|--|--|
| 2 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
|---|--|--|

|   |  |  |
|---|--|--|
| 3 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
|---|--|--|

|   |  |  |
|---|--|--|
| 4 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
|---|--|--|

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_



Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### **Work Practices Lab Performance Checklist Station 5: Overpacking**

| <b>Action</b>   | <b>Completed/Observed</b>    |                             |
|---|------------------------------|-----------------------------|
| 1. Elected a leader. ....                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Selected appropriate materials from available supplies. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Properly donned PPE. ....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Worked in a manner to minimize contamination. ....           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Inspected drum for condition and labels. ....                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Ensured transfer technique did not cause contamination. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Maintained Buddy System. ....                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Requested SOP. ....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

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

**Other Actions Observed** **Was Contact Minimized?** ☐ Yes ☐ No

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

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

## **Work Practices Lab Performance Checklist Station 6: Drum Handling**

| <b>Action</b>   | <b>Completed/Observed</b>    |                             |
|---|------------------------------|-----------------------------|
| 1. Properly donned PPE. ....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Worked in a manner to minimize contamination. ....           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Inspected drum for condition and labels. ....                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Ensured transfer technique did not cause contamination. .... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Maintained Buddy System. ....                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Requested SOP. ....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

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|                               |                               |                              |                             |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| <b>Other Actions Observed</b> | <b>Was Contact Minimized?</b> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|

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Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

## Decontamination

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### Exercise - Suit-up and Decon

During this lab, you will have an opportunity to:

1. Don and Doff Level B PPE.
2. Don and Doff Level C PPE.
3. Review inspection and maintenance of PPE.
4. Go through a decon line and perform the activities of a decon line worker.

For this lab you will be teamed up with a buddy. Be sure to go through all stations with your buddy.

The instructor at each station will describe the problem, provide additional materials, and answer questions. Complete the Lab Performance Checklists provided by your instructor for each station, then have the instructor review and sign them. They will be retained by the training center as part of your training records. The checklists provided on the next six pages are for your records if you want to complete them.

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### Decon Lab Performance Checklist

#### Station 1: Donning and Doffing Level B

1. List the size that you chose for all the following equipment. If you did not wear the listed equipment, put an "X" on the line.

a. SCBA facepiece                      Size \_\_\_\_\_ Brand \_\_\_\_\_

b. Boots                                      Size \_\_\_\_\_ Brand \_\_\_\_\_

c. Inner gloves                      Size \_\_\_\_\_ Brand \_\_\_\_\_

d. Outer gloves                      Size \_\_\_\_\_ Brand \_\_\_\_\_

e. CPC - one-piece                      Size \_\_\_\_\_ Brand \_\_\_\_\_

f. CPC - two-piece                      Size \_\_\_\_\_ Brand \_\_\_\_\_

g. Hard hat                              Size \_\_\_\_\_ Brand \_\_\_\_\_

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

2. Did you inspect the equipment before donning it?                      ☐ Yes ☐ No

3. Did your buddy:

a. Make pull tabs when taping your boots/pants?                      ☐ Yes ☐ No

b. Make pull tabs when taping your gloves/sleeves?                      ☐ Yes ☐ No

c. Review the communications system with you?                      ☐ Yes ☐ No

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

Decon Lab Performance Checklist Station 1 (cont.):  
Donning and Doffing Level B

4. Did you do an assigned task? ☐ Yes ☐ No

If yes, describe the task: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. After doffing the SCBA, did you:

a. Extend the harness straps? ☐ Yes ☐ No

b. Extend the facepiece straps? ☐ Yes ☐ No

c. Clean the facepiece? ☐ Yes ☐ No

d. Check the cylinder? ☐ Yes ☐ No

If yes, did the cylinder need to be changed? ☐ Yes ☐ No

If yes, did you change it, or have it changed? ☐ Yes ☐ No

6. How long did you stay in Level B? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### Decon Lab Performance Checklist

#### Station 2: Donning and Doffing Level C

1. List the size that you chose for each of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

a. Chemical-protective clothing                      Size \_\_\_\_\_ Brand \_\_\_\_\_

b. Air-purifying respirator                              Size \_\_\_\_\_ Brand \_\_\_\_\_

c. Boots    Size \_\_\_\_\_ Brand \_\_\_\_\_

d. Inner gloves    Size \_\_\_\_\_ Brand \_\_\_\_\_

e. Outer gloves    Size \_\_\_\_\_ Brand \_\_\_\_\_

f. Hard hat    Size \_\_\_\_\_ Brand \_\_\_\_\_

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

Type of Equipment \_\_\_\_\_ Size \_\_\_\_\_

2. Did you inspect the equipment before donning it? ☐ Yes ☐ No

3. Did your buddy:

a. Make pull tabs when taping your boots/pants? ☐ Yes ☐ No

b. Make pull tabs when taping your gloves/sleeves? ☐ Yes ☐ No

c. Review the communications system with you? ☐ Yes ☐ No

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

Decon Lab Performance Checklist Station 2 (cont.):  
Donning and Doffing Level C

4. Did you do an assigned task? ☐ Yes ☐ No

If yes, describe the task: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Did you take off the suit in a manner that would protect you and the other workers around you from contamination? ☐ Yes ☐ No

6. Did you properly remove your inner gloves? ☐ Yes ☐ No

7. When removing your respirator:

a. Were you wearing your inner gloves? ☐ Yes ☐ No

b. Did you extend your facepiece straps? ☐ Yes ☐ No

c. Did you wash the respirator? ☐ Yes ☐ No

8. How long did you stay in Level C? \_\_\_\_\_ minutes

Date \_\_\_\_\_ Instructor's Signature \_\_\_\_\_

Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### Decon Lab Performance Checklist

#### Station 3: Inspection and Maintenance of PPE

1. Did the instructor tell you how to wash your respirator? ☐ Yes ☐ No

2. Did you clean your respirator? ☐ Yes ☐ No

3. Were inspection procedures described for:

a. Boots? ☐ Yes ☐ No

b. Outer gloves? ☐ Yes ☐ No

c. Hard hats? ☐ Yes ☐ No

d. Reusable suits? ☐ Yes ☐ No

4. Did you inspect the gloves? ☐ Yes ☐ No

5. Did you find defects in the glove? ☐ Yes ☐ No

If yes, describe the defects: \_\_\_\_\_

\_\_\_\_\_

6. Did you inspect the suit? ☐ Yes ☐ No

7. Did he/she find defects in the reusable suit? ☐ Yes ☐ No

If yes, describe the defects: \_\_\_\_\_

\_\_\_\_\_

8. Did you observe the leak-test procedure for a Level A suit? ☐ Yes ☐ No

9. Did you see the repair kit for the Level A suit? ☐ Yes ☐ No

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_



Name \_\_\_\_\_

Buddy's Name \_\_\_\_\_

### Decon Lab Performance Checklist Station 4: Decontamination Line

Think about when you were on the decon line, then answer the following questions by checking the appropriate line.

1. Was all the needed decon equipment assembled? ☐ Yes ☐ No
2. Was the decon team ready when the work team arrived? ☐ Yes ☐ No
3. Did all the equipment work properly? ☐ Yes ☐ No
4. Were decon workers wearing appropriate level(s) of protection? ☐ Yes ☐ No
5. Did the decon team stay in communication with the work team? ☐ Yes ☐ No
6. Did the work team follow the decon team's instructions? ☐ Yes ☐ No
7. Were all work team members fully decontaminated? ☐ Yes ☐ No
8. Were wastewater and materials controlled? ☐ Yes ☐ No
9. Were the reusable supplies and equipment decontaminated? ☐ Yes ☐ No
10. Did decon team self-decontaminate before leaving the area? ☐ Yes ☐ No

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_

# Site Simulation and Critique

## Exercise – Hazardous Waste Site Simulation

In this simulated response, the group will rotate through selected tasks and workstations. At the end of the Simulation, you will participate in a critique of the activity.

A Performance Checklist for this exercise is provided on the following page. However, the facilitator may hand out duplicates for you to complete, have signed by the facilitator, and turn in at the end of the workshop.

The training center retains this information with your other training records. Therefore, you may want to record your lab results separately for your personal records.

Name: \_\_\_\_\_ Buddy's Name: \_\_\_\_\_

Performance Checklist: Site Simulation and Critique

1. I wore the following levels of protection

A ☐ Yes ☐ No

B ☐ Yes ☐ No

C ☐ Yes ☐ No

2. I completed the following assignments

Segregate drums ☐ Yes ☐ No

Overpack ☐ Yes ☐ No

Handle/move drums ☐ Yes ☐ No

Hazard assessment (ID chemical) ☐ Yes ☐ No

Other \_\_\_\_\_ ☐ Yes ☐ No

Decon worker ☐ Yes ☐ No

Was deconned ☐ Yes ☐ No

3. I reviewed the following

SOP/SOG for activity ☐ Yes ☐ No

4. One action I could have taken to reduce contamination spreading at the work site is

\_\_\_\_\_

5. One action I could have taken to reduce contamination in decon is

\_\_\_\_\_

6. Participated in the critique, including identifying a better way to

\_\_\_\_\_

Date \_\_\_\_\_ Instructor's Signature: \_\_\_\_\_