

# **Using the NIOSH Pocket Guide mobile app**

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Time Requirement: 1.5 - 2 hours

Number of Instructors: 1 or more, consistent with ratio in Minimum Criteria

## **Materials**

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- Student materials (Participant Guide, exposure scenario, worksheet)
- Whiteboard or equivalent; markers
- If available, projector from which mobile app can be displayed
- One device (smartphone or tablet) per participant with NIOSH Pocket Guide app already loaded
- If using written resource also, have at least one per group

## **Objectives**

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When completed, participants will be better able to:

- Gather information about a chemical hazard using the NIOSH Pocket Guide mobile app
- Identify a chemical concentration that is immediately dangerous to life and health (IDLH) using the NIOSH Pocket Guide mobile app
- Select a category of respiratory protection for a chemical exposure scenario using the NIOSH Pocket Guide mobile app

### Teaching Methods

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- Presentation/discussion
- Small-group activity

### Suggested Facilitator Preparation

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- Review the Participant Guide
- Test app and web links prior to the session, and if any are inoperative contact your IT support
- Review integration of exercise into the overall program agenda
- Review exposure scenario and copy (if needed)
- Review worksheet(s) and copy for each participant to record information
- Prepare answer key for worksheet(s)
- Assure that there are enough devices with the app already loaded so that each participant has one. Some participants may choose to use their own smartphone or device instead (downloading should be done during a break as it can take time away from required training hours). An internet connection will be needed for the download but not for use of the app once it is loaded.
- Assure proficiency with download and navigation of the app for all devices (smartphone, tablet, computer).
- Assure that you have assembled all of the materials needed for the exercise

### Getting the NIOSH Pocket Guide mobile app

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The NIOSH Pocket Guide can be downloaded onto various devices from the web page <https://www.cdc.gov/niosh/npg/mobilepocketguide.html>. This site can be found by searching in a web browser using the terms “NIOSH Pocket Guide app”. Once you have reached the page, you will select “Download on the App Store” for Apple products or “Get it on Google Play” for android devices.

## **Minimum Content Requirements**

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- Use NIOSH Pocket Guide mobile app
- Complete the worksheet

## **Questions You May Be Asked**

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1. "How do we use this if we are barred from using phones at work?" Be prepared to discuss other devices that may be useful. Is mobile technology going to be used by all participants? See note above regarding reconnaissance.

2. "Do I have to use my own phone for work?" Generally, employers want to have secure devices for work-related information. If your employer does not provide a device for work use, ask if using this app is consistent with company security guidance.

## **Presentation of the Session**

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Make sure everyone has a device with the NIOSH Pocket Guide mobile app loaded prior to the session.

## **Introduce the NIOSH Pocket Guide mobile app**

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Tailor this introduction to the results of your reconnaissance. To demonstrate the app on a smart phone or tablet, you may wish to consider projecting directly to a screen.

As part of this introduction, include:

- Briefly describe and demonstrate how to download the app to a smartphone or tablet.
- Display the home page and navigation options. Navigate to the various screens.
- Illustrate use of the app using a chemical that you select.

## **Exercise: Use the NIOSH Pocket Guide mobile app**

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### The Exposure Scenario

Describe the exposure scenario to be used in the exercise. Note: Example scenarios and worksheets are provided at the end of this guide.

Provide the details of the scenario where everyone can see for reference during the exercise.

Ask: Are there any questions about the scenario?

Distribute the exercise worksheets.

Note: Urge participants to take time to work with the app. Focus on the entire resource, not just finding the answers to complete the worksheet.

Facilitate a report back to assure that everyone has identified the correct information.

Ask: What aspects of the app were easy to use? Were there problems with use of the app? Did you resolve any problems and, if so, how? Did you find additional useful content?

Keep list of responses for update of these materials; provide to your Program Director.

### **Closing: Discuss future uses for the app**

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Review the objectives again.

Lead a discussion of how this app may be used after this training session. List responses where everyone can see them.

Ask: How would you apply the information available in this mobile app?

Ask: How would you use this mobile app in conjunction with other resources?

Ask: Based on this exercise, what takeaways do you have for future use?

Answer any remaining questions.

### **Follow-up**

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Make this exercise better:

- Review and update the Participant Guide and this Facilitator Guide that you developed from the templates; your Program Director will send the final versions

## Using the NIOSH Pocket Guide mobile app – Facilitator Guide

to others in the Consortium to use. Acknowledgement of the group developing each app exercise will be shown in the Introduction to the Facilitator Guide.

- Are there other 'Questions you may be asked' that should be included?
- Organize the listing of 'takeaways' and forward to your program director. These are very important impacts to report to NIEHS.

NOTE: The Midwest Consortium developed this guidance under cooperative agreement number U45 ES 06184 from the National Institute of Environmental Health Sciences.

## **Exposure Scenario Example #1**

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1. A brass valve has been removed from the bottom of a storage tank partially filled with carbon disulfide. The removal appears to have been a theft of the valve over a weekend when no one was at the facility. More than 500 gallons of carbon disulfide has been released. The spill flowed into a ditch near the facility. Using the NIOSH Pocket Guide mobile app, fill in the worksheet that has been provided with properties of carbon disulfide.
2. The concentration of carbon disulfide in the air in the ditch is measured to be 80 ppm. Is this concentration immediately dangerous to life and health?
3. Workers must clean up the carbon disulfide from the water, soil, and sediments in the ditch. With what you know about the carbon disulfide concentration in the air, what is the minimum level of respiratory protection that you would recommend for the cleanup workers?

## **Exposure Scenario Example #2**

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1. Low temperature liquid anhydrous ammonia is used in rapid freezing cells at a poultry production facility. Plant operators are alerted to a leak of ammonia by the presence of a fog in the area surrounding the freezing cells. The source of the leak is uncertain, but it is likely to have been occurring for several hours by the time it is discovered. Supervisors quickly decide to evacuate this area of the plant and call in a facilities team to diagnose the problem. Using the NIOSH Pocket Guide mobile app, fill in the worksheet that has been provided with properties of anhydrous ammonia.
2. The concentration of ammonia in the air near the freezing cells is measured to be as high as 300 ppm. Is this concentration immediately dangerous to life and health?
3. The facilities team must enter the area around the freezing cells to shut down the refrigeration system and diagnose the problem. With what you know about the ammonia concentration in the air, what is the minimum level of respiratory protection that you would recommend for these workers?

### Exposure Scenario Example #3

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1. Two teenagers bring metallic mercury from an abandoned industrial site into a neighborhood and play with it with other children. The children return to their homes, contaminating carpeting and furniture. Using the NIOSH Pocket Guide mobile app, fill in the worksheet that has been provided with properties of metallic mercury.
2. The concentration of mercury in the air in an apartment is measured to be 0.2 mg/m<sup>3</sup>. Is this concentration immediately dangerous to life and health?
3. Workers must enter the apartment to clean or remove carpeting and furniture. With what you know about the mercury concentration in the air, what is the minimum level of respiratory protection that you would recommend for the cleanup workers?

## Worksheet Example

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Trainee I.D.: \_\_\_\_\_

### NIOSH Pocket Guide Mobile App Worksheet

*(Instructor will provide the exposure scenario for your use on this exercise.)*

#### Part (a)

Chemical: \_\_\_\_\_

Instructions: Answer the following questions, using the information from the NIOSH Pocket Guide mobile app. Put "NA" if there is no information available or if the question does not apply to this material.

1. The name for this compound is: \_\_\_\_\_

2. The DOT ID and Guide numbers are. \_\_\_\_\_

3. At room temperature (68 °F) the compound is:

Solid

Liquid

Gas

4 a. The exposure is measured in units of \_\_\_\_\_

b. Complete the following table:

Limit	Numerical Value
NIOSH TWA	
NIOSH ST	
NIOSH C	
OSHA TWA	
OSHA ST	
OSHA C	
IDLH	

5. As a gas, the compound is:

Less dense than air

More dense than air



6. The compound is:

Flammable

Combustible

Does not burn

7. The chemical *vapor* can be absorbed through intact skin.

True

False

8. When should protective clothing be removed? \_\_\_\_\_

9. The guide recommends eye protection.

True

False

10. If a victim got this compound on the skin, the guide recommends  
\_\_\_\_\_

11. Damage can occur to the skin if there is direct contact with this substance.

True

False

12. This material may produce mental confusion.

True

False

13. This material is a known or probable carcinogen.

True

False

14. Some compounds should not be stored near this material without adequate safeguards to prevent mixing.

True

False

15. The vapor pressure is: \_\_\_\_\_

**Part (b)**

Measured exposure level of compound: \_\_\_\_\_

Is this concentration immediately dangerous to life and health?

Yes

No

**Part (c)**

With what you know about the compound's concentration in the air, what is the *minimum* level of respiratory protection that you would recommend for the cleanup workers?

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