



Respirator Fit Test Capacity Building Guide / Workbook

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Introduction

Respiratory exposures in agriculture may include pesticides, grain dust, livestock, mold, hay, exhaust from machinery, welding fumes and other types of organic dusts. Selection and appropriate use of respiratory protection is key to prevention of acute respiratory illness and long-term disease. A respirator must form an adequate seal with the wearer's face to protect against inhaling materials that could cause harm.

Respirator Fit Testing determines whether a particular respirator properly fits the face of the wearer. Fit testing may be required prior to using a respirator jobs, such as pesticide application.

When is a respirator fit test required?

The US Occupational Safety and Hazard Administration (OSHA) is responsible for ensuring a safe workplace for employees. Millions of workers are required to wear respirators in various workplaces throughout the United States. Respirators protect workers against insufficient oxygen environments, harmful dusts, fogs, smokes, mists, gases, vapors, and sprays.

Respirators provide protection from respiratory hazards only when they are properly selected and used in compliance with the Respiratory Protection standard (29 CFR 1910.134 and 29 CFR 1926.103). The Respiratory Protection standard applies to general industry, construction, long shoring, shipyard, and marine terminal workplaces.

The **Respiratory Protection Standard** requires employers to establish and maintain a respiratory protection program to protect their respirator-wearing employees. Key elements of a respiratory protection program include the following:

- Respirator selection
- Medical evaluations
- **Respirator fit testing**
- Use of respirators
- Maintenance and care
- Assuring adequate air quality
- Identification of filters, cartridges and canisters
- Training and information
- Program evaluation
- Record keeping

*This guidebook will provide information on **qualitative fit testing** and understanding roles and responsibilities for respirator fit testing based on professional capacity. This guidebook does not provide information on how to administer a Respiratory Protection Program.*

Respirator Fit Testing in Agriculture

Many respiratory exposures in agriculture can cause acute respiratory illness and long-term disease. OSHA can conduct enforcement activities on any person engaged in a farming operation with more than ten non-family employees, or has maintained a temporary labor camp within the preceding 12 months. These farms must follow OSHA requirements regarding the use of respirators including following the Respiratory Protection Standard. Most state plans have adopted Federal OSHA regulations and standards verbatim. Some states have plans that differ significantly from Federal OSHA. These states have standards that are more stringent than Federal OSHA standards or address hazards not covered by Federal OSHA. Learn more about state standards from [osha.gov/SLTC/respiratoryprotection/standards](https://www.osha.gov/SLTC/respiratoryprotection/standards). It is highly recommended that all people exposed to respiratory hazards in agriculture wear a respirator and obtain a respirator fit test to ensure a proper fit.

More information is available on the OSHA website OSHA Respiratory Protection eTool page: [osha.gov/SLTC/etools/respiratory/respirator_basics](https://www.osha.gov/SLTC/etools/respiratory/respirator_basics)

Worker Protection Standard (WPS) related to Agriculture and respirator fit testing.

Anyone working with a pesticide must follow all personal protective equipment (PPE) requirements listed on the label. This is for safety, and is a legal requirement for using pesticides. Pesticides that carry a risk of inhalation exposure require the use of a respirator. Handler employers must provide the following protections for handlers **when using agricultural pesticide products that require the use of a respirator**:

1. **A medical evaluation by a physician or other licensed health care professional** that conforms to the provisions of 29 CFR 1910.134(e) for each handler — to ensure the handler's physical ability to safely wear the respirator specified on the pesticide product labeling.
2. **Annual fit-test for each type of respirator required by the pesticide product(s) label** that the handler will be using. The fit-

testing must be done in a manner that conforms to the provisions of 29 CFR 1910.134, including Appendix A.

3. **Annual training on how to properly use the respirator(s)** specified on the labeling of the pesticide products the handler will be using. The training must conform to the provisions of 29 CFR 1910.134(k)(1)(i) through (vi).
4. The handler employer must maintain records that document the completion of the requirements in the WPS — for at least two years from the dates conducted

IMMEDIATE FAMILY EXEMPTION

When an agricultural establishment is majority-owned by one family, the WPS exempts owners and members of their immediate family from many of the WPS requirements. However, owners of agricultural establishments must do the following things for themselves and/or employed handlers who are immediate family members:

- Wear a respirator if required by the pesticide product label.
- Provide a respirator that is clean and in good working condition.
- Provide a medical evaluation before wearing a respirator.
- Provide fit-testing.
- Provide respirator training.
- Maintain records of medical evaluation, fit-testing, and/or respirator training.

Owners of agricultural establishments and their immediate family members are not required to do the following:

- Ensure that respirators are used correctly, maintained, and/or cleaned
- According to manufacturer's instructions.
- Ensure that damaged respirators are rendered unusable.
- Provide a place to store and put on PPE that is away from stored pesticides.

Respiratory Exposures in Agriculture

Respiratory exposures in agriculture varies depends on the region and the type of farming. Understanding respiratory hazards in agriculture and appropriate respiratory protection is key to assisting the agriculture population in the use of respirators and the prevention of short and long-term lung disease.



Notes:

Roles and Responsibilities

What is your role in respirator fit testing based on professional capacity?

Roles and responsibilities related to Respirator Fit Testing and medical evaluation is directly related to your scope of practice when you are a professional such as a nurse or physician. There are aspects of Respirator Fit testing that can be done by someone who is not a health care provider.

Medical Evaluation and Questionnaire Requirements

Respirators must be used in workplaces in which employees are exposed to hazardous airborne contaminants. When respiratory protection is required, employers must have a respirator protection program as specified in OSHA's Respiratory Protection standard (29 CFR 1910.134).

Before wearing a respirator, workers must first be medically evaluated using the mandatory medical questionnaire or an equivalent method. The employer or individual who is required to wear a respirator must identify a physician or other **licensed health care professional (PLHCP)** to perform all medical evaluations using the **medical questionnaire** in Appendix C of the Respiratory Protection standard or a medical examination that obtains the same information.

Profession	Administer Medical Questionnaire	Review Medical Questionnaire	Medical Evaluation	Fit Test
Farmer	X			X
Safety Officer	X			X
Manager	X			X
Pharmacy Tech	X			X
Pharmacist	X	X		X
LPN	X	X		X
RN	X	X		X
Physician Assistant	X	X		X
Nurse Practitioner	X	X	X	X
Chiropractor	X	X	X	X
Physician	X	X	X	X

Respirator Fit Testing in Your Community:

Respirator fit testing is a growing need in many agricultural communities due to changes in the Worker Protection Standard requirements for producers who apply pesticides. Respirator fit testing is also important for other types of exposures but many communities do not have someone who is trained to perform fit testing.

One individual may have the capacity to perform all aspects of the respirator fit test including administering the questionnaire, review of the medical questionnaire, medical evaluation and perform the fit test but this is not common. In most cases people will need to rely on more than one individual to accomplish having a respirator fit test that complies with OSHA standards. This will require building a network consisting of individuals and organizations to ensure individuals can easily receive a respirator fit test. The chart on the previous page provides appropriate roles and responsibilities for a variety of individuals and professionals that may be responsible for respirator fit testing. Two different examples of how these individuals can work together would be as follows:

Example # 1 ABC Manufacturing Company

- ABC Manufacturing Company determines their employees need a respirator fit test and implements a Respiratory Fit Test Program
- The Safety Officer at ABC Manufacturing Company administers the medical questionnaire
- Registered Nurse (Licensed Health Care Professional) reviews the medical questionnaire to determine if a medical evaluation is required
- Physician does the medical evaluation for the employee(s)
- Safety Officer at ABC Manufacturing Company is qualified to perform respirator fit testing
- Safety Officer at ABC Manufacturing Company performs fit testing
- Safety Officer does all work related to the Respiratory Program per OSHA requirements including respirator cleaning, storage and cartridge changing schedule

Example #2 Farmer Swanson Applies Pesticides

- Farmer Swanson determines he and his family members need a respirator fit test based on the pesticide label.
- Farmer Swanson contacts his health care provider (HCP Office) to find out how to get a respiratory fit test.
- The HCP Office discusses the need for a medical questionnaire to be completed with Farmer Swanson. She/he directs Farmer Swanson to come to the office to pick up the medical questionnaire or sends it by email to Farmer Swanson.
- Farmer Swanson and family members complete the medical questionnaire and return it to the HCP Office.
- A Registered Nurse (Licensed Health Care Professional) at the HCP Office reviews the medical questionnaire to determine if a medical evaluation is needed.
- Physician or Nurse Practitioner does the medical evaluation for Farmer Swanson but not the rest of his family members, as they do not need an evaluation based on their answers to the questions.
- Registered Nurse at HCP Office who is qualified to do fit testing does the respirator fit testing for Farmer Swanson and all family members.
- Registered Nurse at HCP Office provides Farmer Swanson and his family members with a Fit Test Record for his records.

Community-based Respirator Fit Testing Business Case

Finding a way to make respirator fit testing accessible in communities can be challenging. Developing a respirator fit test service may include multiple organizations, individuals trained in fit testing or a single organization. Having all aspects of respirator fit testing in one organization is the easiest but not always feasible. A health care provider has the potential to have this ability by having an individual(s) trained in performing respirator fit testing within the office.

In other scenarios, someone trained in fit testing would refer to a health care provider for the medical evaluation services. In all scenarios, communication, networking and establishing a fee structure is important. The following items will most likely require some type of fee for service structure.

- Medical evaluation questionnaire review
- Medical evaluation (this may include a physical and a lung function test)
- Respirator Fit Test
- Respirator use education
- Respirator Program Administration
- Retail sales of respirator supplies

Fit testing a respirator is an important part of the entire process of appropriate respiratory protection. Other aspects of respirator fit testing include the availability of respirators and cartridges for specific respiratory hazards. Individuals or health care providers who perform respiratory fit testing and assist with the administration of a respirator program are many times also the resource for assisting the individual in finding the right respirator and purchasing decisions.

Creating a community-based respirator fit test model will assist in making certain that all aspects of appropriate respirator protection are available.

OSHA INFOSHEET

Respirator Medical Evaluation Questionnaire

Respirators must be used in workplaces in which employees are exposed to hazardous airborne contaminants. When respiratory protection is required employers must have a respirator protection program as specified in OSHA's Respiratory Protection standard (29 CFR 1910.134). Before wearing a respirator, workers must first be medically evaluated using the mandatory medical questionnaire or an equivalent method. To facilitate these medical evaluations, this INFOSHEET includes the mandatory medical questionnaire to be used for these evaluations.

Medical Evaluation and Questionnaire Requirements

The requirements of the medical evaluation and for using the questionnaire are provided below:

- The employer must identify a physician or other licensed health care professional (PLHCP) to perform all medical evaluations using the medical questionnaire in Appendix C of the Respiratory Protection standard or a medical examination that obtains the same information. (See Paragraph (e)(2)(i).)
- The medical evaluation must obtain the information requested in Sections 1 and 2, Part A of Appendix C. The questions in Part B of Appendix C may be added at the discretion of the health care professional. (See Paragraph (e)(2)(ii).)
- The employer must ensure that a follow-up medical examination is provided for any employee who gives a positive response to any question among questions 1 through 8 in Part A Section 2, of Appendix C, or whose initial medical examination demonstrates the need for a follow-up medical examination. The employer must provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP. (See Paragraph (e)(3)(i).)
- The medical questionnaire and examinations must be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee and in a manner that ensures that he or she understands its content. The employer must not review the employee's responses, and the questionnaire must be provided directly to the PLHCP. (See Paragraph (e)(4)(i).)

Excerpt from Appendix C of 29 CFR 1910.134: OSHA Respirator Medical Evaluation Questionnaire

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee: Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Once filled out, this form must be given to the PLHCP. This form should **not** be submitted to OSHA.

	YES	NO
c. Chronic bronchitis	<input type="checkbox"/>	<input type="checkbox"/>
d. Emphysema	<input type="checkbox"/>	<input type="checkbox"/>
e. Pneumonia	<input type="checkbox"/>	<input type="checkbox"/>
f. Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>
g. Silicosis	<input type="checkbox"/>	<input type="checkbox"/>
h. Pneumothorax (collapsed lung)	<input type="checkbox"/>	<input type="checkbox"/>
i. Lung cancer	<input type="checkbox"/>	<input type="checkbox"/>
j. Broken ribs	<input type="checkbox"/>	<input type="checkbox"/>
k. Any chest injuries or surgeries	<input type="checkbox"/>	<input type="checkbox"/>
l. Any other lung problem that you've been told about	<input type="checkbox"/>	<input type="checkbox"/>
4. Do you <i>currently</i> have any of the following symptoms of pulmonary or lung illness?	<input type="checkbox"/>	<input type="checkbox"/>
a. Shortness of breath	<input type="checkbox"/>	<input type="checkbox"/>
b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline	<input type="checkbox"/>	<input type="checkbox"/>
c. Shortness of breath when walking with other people at an ordinary pace on level ground	<input type="checkbox"/>	<input type="checkbox"/>
d. Have to stop for breath when walking at your own pace on level ground	<input type="checkbox"/>	<input type="checkbox"/>
e. Shortness of breath when washing or dressing yourself	<input type="checkbox"/>	<input type="checkbox"/>
f. Shortness of breath that interferes with your job	<input type="checkbox"/>	<input type="checkbox"/>
g. Coughing that produces phlegm (thick sputum)	<input type="checkbox"/>	<input type="checkbox"/>
h. Coughing that wakes you early in the morning	<input type="checkbox"/>	<input type="checkbox"/>
i. Coughing that occurs mostly when you are lying down	<input type="checkbox"/>	<input type="checkbox"/>
j. Coughing up blood in the last month	<input type="checkbox"/>	<input type="checkbox"/>
k. Wheezing	<input type="checkbox"/>	<input type="checkbox"/>
l. Wheezing that interferes with your job	<input type="checkbox"/>	<input type="checkbox"/>
m. Chest pain when you breathe deeply	<input type="checkbox"/>	<input type="checkbox"/>
n. Any other symptoms that you think may be related to lung problems	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you <i>ever had</i> any of the following cardiovascular or heart problems?		
a. Heart attack	<input type="checkbox"/>	<input type="checkbox"/>
b. Stroke	<input type="checkbox"/>	<input type="checkbox"/>
c. Angina	<input type="checkbox"/>	<input type="checkbox"/>
d. Heart failure	<input type="checkbox"/>	<input type="checkbox"/>

	YES	NO
e. Swelling in your legs or feet (not caused by walking)	<input type="checkbox"/>	<input type="checkbox"/>
f. Heart arrhythmia (heart beating irregularly)	<input type="checkbox"/>	<input type="checkbox"/>
g. High blood pressure	<input type="checkbox"/>	<input type="checkbox"/>
h. Any other heart problem that you've been told about	<input type="checkbox"/>	<input type="checkbox"/>
6. Have you <i>ever had</i> any of the following cardiovascular or heart symptoms?	<input type="checkbox"/>	<input type="checkbox"/>
a. Frequent pain or tightness in your chest	<input type="checkbox"/>	<input type="checkbox"/>
b. Pain or tightness in your chest during physical activity	<input type="checkbox"/>	<input type="checkbox"/>
c. Pain or tightness in your chest that interferes with your job	<input type="checkbox"/>	<input type="checkbox"/>
d. In the past two years, have you noticed your heart skipping or missing a beat	<input type="checkbox"/>	<input type="checkbox"/>
e. Heartburn or indigestion that is not related to eating	<input type="checkbox"/>	<input type="checkbox"/>
f. Any other symptoms that you think may be related to heart or circulation problems	<input type="checkbox"/>	<input type="checkbox"/>
7. Do you <i>currently</i> take medication for any of the following problems?	<input type="checkbox"/>	<input type="checkbox"/>
a. Breathing or lung problems	<input type="checkbox"/>	<input type="checkbox"/>
b. Heart trouble	<input type="checkbox"/>	<input type="checkbox"/>
c. Blood pressure	<input type="checkbox"/>	<input type="checkbox"/>
d. Seizures	<input type="checkbox"/>	<input type="checkbox"/>
8. If you've used a respirator, have you <i>ever had</i> any of the following problems? (If you've never used a respirator, check the following space and go to question 9.) <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Eye irritation	<input type="checkbox"/>	<input type="checkbox"/>
b. Skin allergies or rashes	<input type="checkbox"/>	<input type="checkbox"/>
c. Anxiety	<input type="checkbox"/>	<input type="checkbox"/>
d. General weakness or fatigue	<input type="checkbox"/>	<input type="checkbox"/>
e. Any other problem that interferes with your use of a respirator	<input type="checkbox"/>	<input type="checkbox"/>
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?	<input type="checkbox"/>	<input type="checkbox"/>
<p>Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.</p>		
10. Have you <i>ever</i> lost vision in either eye (temporarily or permanently)?	<input type="checkbox"/>	<input type="checkbox"/>
11. Do you <i>currently</i> have any of the following vision problems?	<input type="checkbox"/>	<input type="checkbox"/>
a. Wear contact lenses	<input type="checkbox"/>	<input type="checkbox"/>
b. Wear glasses	<input type="checkbox"/>	<input type="checkbox"/>
c. Color blind	<input type="checkbox"/>	<input type="checkbox"/>
d. Any other eye or vision problem	<input type="checkbox"/>	<input type="checkbox"/>

	YES	NO
12. Have you <i>ever had</i> an injury to your ears, including a broken eardrum?	<input type="checkbox"/>	<input type="checkbox"/>
13. Do you <i>currently</i> have any of the following hearing problems?	<input type="checkbox"/>	<input type="checkbox"/>
a. Difficulty hearing	<input type="checkbox"/>	<input type="checkbox"/>
b. Wear a hearing aid	<input type="checkbox"/>	<input type="checkbox"/>
c. Any other hearing or ear problem	<input type="checkbox"/>	<input type="checkbox"/>
14. Have you <i>ever had</i> a back injury?	<input type="checkbox"/>	<input type="checkbox"/>
15. Do you <i>currently</i> have any of the following musculoskeletal problems?	<input type="checkbox"/>	<input type="checkbox"/>
a. Weakness in any of your arms, hands, legs, or feet	<input type="checkbox"/>	<input type="checkbox"/>
b. Back pain	<input type="checkbox"/>	<input type="checkbox"/>
c. Difficulty fully moving your arms and legs	<input type="checkbox"/>	<input type="checkbox"/>
d. Pain and stiffness when you lean forward or backward at the waist	<input type="checkbox"/>	<input type="checkbox"/>
e. Difficulty fully moving your head up or down	<input type="checkbox"/>	<input type="checkbox"/>
f. Difficulty fully moving your head side to side	<input type="checkbox"/>	<input type="checkbox"/>
g. Difficulty bending at your knees	<input type="checkbox"/>	<input type="checkbox"/>
h. Difficulty squatting to the ground	<input type="checkbox"/>	<input type="checkbox"/>
i. Climbing a flight of stairs or a ladder carrying more than 25 lbs.	<input type="checkbox"/>	<input type="checkbox"/>
j. Any other muscle or skeletal problem that interferes with using a respirator	<input type="checkbox"/>	<input type="checkbox"/>

This infosheet does not include the questions in Part B because they are not mandatory; rather, they may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

OSHA Educational Materials

OSHA has an extensive publications program. For a listing of free items, visit OSHA's web site at www.osha.gov/publications or contact the OSHA Publications Office, U.S. Department of

Labor, 200 Constitution Avenue, N.W., N-3101, Washington, DC 20210. Telephone (202) 693-1888 or fax to (202) 693-2498.

Contacting OSHA

To report an emergency, file a complaint or seek OSHA advice, assistance or products, call (800) 321-OSHA (6742) or contact your nearest OSHA regional, area, or State Plan office; TTY: 1-877-889-5627.

This InfoSheet is not a standard or regulation, and it creates no new legal obligations. It contains recommendations as well as descriptions of mandatory safety and health standards. The recommendations are advisory in nature, informational in content, and are intended to assist employers in providing a safe and healthful workplace. The *Occupational Safety and Health Act* requires employers to comply with safety and health standards and regulations promulgated by OSHA or by a state with an OSHA-approved state plan. In addition, the Act's General Duty Clause, Section 5(a)(1), requires employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm.



U.S. Department of Labor



Supplement Respirator Medical Evaluation Information

Supplemental information to be provided by the employer for RESPIRATOR MEDICAL EVALUATION

From the OSHA Small Entity Compliance Guide for the Respiratory Protection Standard at <https://www.osha.gov/Publications/3384small-entity-for-respiratory-protection-standard-rev.pdf>

29 CFR 1910.134 Respiratory Protection Standard (e) (5) Supplemental information for the Physician or Licensed Health Care Professional (PLHCP)

This portion of the Respiratory Protection standard requires you (the employer) to provide the PLHCP with specific information to be used to make the determination about an employee's ability to use a respirator. This information includes:

- The type and weight of the respirator to be worn by the worker.
- The duration and frequency of respirator use (including use for rescue and escape).
- The level of physical effort that the employee would be expending while wearing a respirator.
- Additional personal protective clothing and equipment that the employee would wear.
- The temperature and humidity extremes that may be encountered in the work environment where respirator use is required.

The following information sheet was adapted from the Oregon OSHA Medical Evaluation publication provided by the Pesticide Educational Resources Collaborative (PERC). It is a sample to give guidance on how to provide the information for the Physician and Licensed Health Care Professional.

Supplemental Respirator Medical Evaluation Information

The **EMPLOYER** must provide this supplemental information to the health care professional (PLHCP) who will review the employee's medical questionnaire:

EMPLOYEE'S NAME: _____

EMPLOYEE'S JOB TITLE/CLASSIFICATION: _____

1. What type of respirator will this employee use?

Check the type(s) below (you can check more than one category):

_____ N-, R-, or P- filtering face-piece (disposable, "dust mask" type)

_____ Tight-fitting, air-purifying half-mask,

_____ Tight-fitting full-face mask

_____ Air-purifying type

_____ Supplied air type

_____ Powered-air purifying respirator (PAPR)

_____ Tight-fitting, full face mask

_____ Loose-fitting helmet or hood

_____ Self-Contained Breathing Apparatus (SCBA)

_____ Escape (gas mask)

_____ Other

2. What is the approximate weight of the respirator and any tanks or air hoses?

3. How often will the employee use the respirator(s)? (circle "yes" or "no" for all answers that apply)

a. Escape only (no rescue duties) Yes / No

b. Less than 2 hrs. per day Yes / No

c. Emergency rescue only Yes / No

d. 2 to 4 hrs. per day Yes / No

e. Less than 5 hrs. per week Yes / No

f. Over 4 hrs. per day Yes / No

4. When the employee uses the respirator(s), is their work effort:

a. **Light** (less than 200 kcal per hour) Yes / No

If "yes" how long does this period last during the average shift:

hrs. _____ mins. _____

Examples of light work effort: sitting while writing, typing, drafting, or performing light assembly work; or standing while controlling machines.

b. **Moderate** (200 to 350 kcal per hour): Yes / No

If "yes" how long does this period last during the average shift:

hrs. _____ mins. _____

Examples of moderate work effort: sitting while nailing or filing; driving a truck, drilling, nailing, performing assembly work, or transferring a moderate load (about 35 pounds) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 pounds) on a level surface. (A gallon of water weighs about 8 lbs; so, a full, 3-gallon, backpack sprayer weighs about 25 lbs.)

c. **Heavy** (above 350 kcal per hour): Yes / No

If "yes" how long does this period last during the average shift?

hrs. _____ mins. _____

Examples of heavy work: lifting a heavy load (about 50 pounds) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph, climbing stairs with a heavy load (about 50 pounds).

5. Will the employee wear protective clothing and/or equipment (other than the respirator) when using their respirator? Yes / No

If "yes," describe this protective clothing and/or equipment: _____

6. Will they be working in hot conditions (temperature more than 77 degrees F)? Yes / No

7. Will they be working in humid conditions? Yes / No

8. Describe the work they will be doing while using their respirator(s):

Notes:

Types of Respirators

A respirator is a device worn over the mouth and nose to protect the respiratory tract by filtering out dangerous substances (such as dusts or fumes) from inhaled air.

There are two main types of respirators; **air-purifying respirators**, which use filters, cartridges, or canisters to remove contaminants from the air you breathe, and **atmosphere-supplying respirators**, which provide you with clean air from an uncontaminated source.

Respirators can also be classified as tight fitting or loose fitting. Tight-fitting respirators need a tight seal between the respirator and the face and/or neck of the respirator user in order to work properly. If the respirator's seal leaks, contaminated air will be pulled into the face piece and can be breathed in.

Dust Mask

A mask that is not designed as a filtering face-piece and is not certified by NIOSH for use as a respirator. The user is not required to participate in the NIH RPP.

NIOSH Approved Respirators

A respirator that has been tested by the National Institute for Occupational Health and Safety and assigned a NIOSH approval number.

Air Purifying Respirators

A respirator with an air-purifying filter, cartridge, or canister capable of removing specific air contaminants by passing ambient air through the air-purifying element.



Filtering Face-piece Respirator:

Filtering face-piece respirators filter out particles and do not protect against non-particulate hazards such as gases or vapors. There are seven classes of filters for NIOSH-approved filtering face-piece respirators available at this time.



Cartridges:

A container with a filter, sorbent medium, or combination of these items that removes specific contaminants (particulates, gases, and/or vapors) from air passed through the container.



Half-Face Respirator:

A face-piece that fits over the nose and under the chin and does not protect the eyes. These respirators are used with cartridges, which are selected based on the hazard.



Full Face-piece

Respirator: A face-piece that covers from roughly the hairline to below the chin. On average, they provide the greatest protection, usually seal most reliably, and provide some eye protection.



Powered Air Purifying Respirator (PAPR):

An air-purifying respirator that uses a blower to force ambient air through an air-purifying cartridge or filter and into the face piece

Atmosphere-supplying respirators

Provide clean air from an uncontaminated source.



Air-Supplied Respirators: A supplied air respirator is designed for workers in an environment where the air is contaminated, harmful or uncomfortable for breathing. This respirator provides breathable air continuously or on pressure demand from either a cylinder or a pipe connected to an air-line, compressor, air pumps, air purifier or surface supply hose. The air is delivered to the worker at ambient pressure through a hood, face mask or mouth piece.



Self-Contained Breathing Apparatus (SCBA): A respirator that provides breathing gas from a source independent of the surrounding atmosphere instead of purifying the atmosphere. The user carries the gas tank on his/her back.

What are your respiratory exposures?

What Air Purifying Respirator Do You Need?

2 Strap Respirator/Mask

<p>3M 9211 or 3M 8511</p> <ul style="list-style-type: none"> • Organic Dust • Livestock • Poultry • Hay • Grain • Woodworking 	<p>3M 8271 P95</p> <ul style="list-style-type: none"> • Organic Dust • Livestock • Poultry • Hay • Grain • Woodworking 	<p>3M 8233 N100</p> <ul style="list-style-type: none"> • Organic Dust • Livestock • Poultry • Hay • Grain <p>Welding 3M - 8515 N95</p> 
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Cartridge Respirators

6000 series	7000 series	Full face piece
 <p>P100 Pink or White</p>	 	 <p>Organic Dust, Grain, Feed, Hogs, Poultry, Welding, Mold, Woodworking</p>
<p>Organic Vapor Black</p>		<p>Pesticides, Paints</p> <p>Use Pre Filter/Filter Cover</p>
<p>Ammonia Green</p>		<p>Anhydrous Ammonia, Hogs, Poultry</p> <p>Use Pre Filter/Filter Cover</p>
<p>Organic Vapor-Acid Gas Yellow</p>		<p>Paints, Disinfectants, Bleach</p> <p>Use Pre Filter/Filter Cover</p>
<p>Multi Gas Olive</p>		<p>Paint, Pesticides, Disinfectants, Bleach, Formaldehyde</p> <p>P100 Pre Filter Included</p>

<p>Filters</p> 	<p>Filter Cover</p> <p>Based on hazards, use pre filters and filter covers when using cartridges that do not have a filter as part of the cartridge.</p> 
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Notes:

Types of Respirator Fit Testing

Overview: Fit tests are not required for loose-fitting respirators, such as hoods, helmets, and loose-fitting face-pieces because a tight seal is not needed for the equipment to protect the user. Fit tests are required for respirators with tight-fitting face-pieces, such as disposable particulate filter masks, half-masks, and full-face masks. A fit test may be required by WPS. Even if not required, it is recommended that a fit test be performed when a tight-fitting respirator is used to ensure that a proper seal can be formed.

There are two types of fit tests: qualitative and quantitative.

Qualitative Fit Test:

Qualitative fit testing is a pass/fail test method that uses your sense of taste or smell, or your reaction to an irritant in order to detect leakage into the respirator face piece. Qualitative fit testing does not measure the actual amount of leakage. Whether the respirator passes or fails the test is based simply on you detecting leakage of the test substance into your face piece. There are four qualitative fit test methods accepted by OSHA:

- Isoamyl acetate, which smells like bananas;
- Saccharin, which leaves a sweet taste in your mouth;
- Bitrex, which leaves a bitter taste in your mouth; and
- Irritant smoke, which can cause coughing

Quantitative Fit Test

Quantitative fit testing uses a machine to measure the actual amount of leakage into the face piece and does not rely upon your sense of taste, smell, or irritation in order to detect leakage. The respirators used during this type of fit testing will have a probe attached to the face piece that will be connected to the machine by a hose. There are three quantitative fit test methods accepted by OSHA:

- Generated aerosol;
- Ambient aerosol; and
- Controlled Negative Pressure.

Quantitative fit testing can be used for any type of tight-fitting respirator



Qualitative Fit Test Apparatus FT-10 (Sweet) and FT-30 (Bitter)

Instructions for Use

Issue Date 4/29/05

Contents:

- One Hood
- One Collar Assembly
- Nebulizer #1 (Sensitivity)
- Nebulizer #2 (Fit Test)
- Two Sets Replacement Nebulizer Inserts
- Sensitivity Solution (#1)
- Fit Test Solution (#2)

Intended Use:

The intended use of these products is to fit test any particulate respirator or gas/vapor respirator with a particulate prefilter.

FT-10 Ingredients:

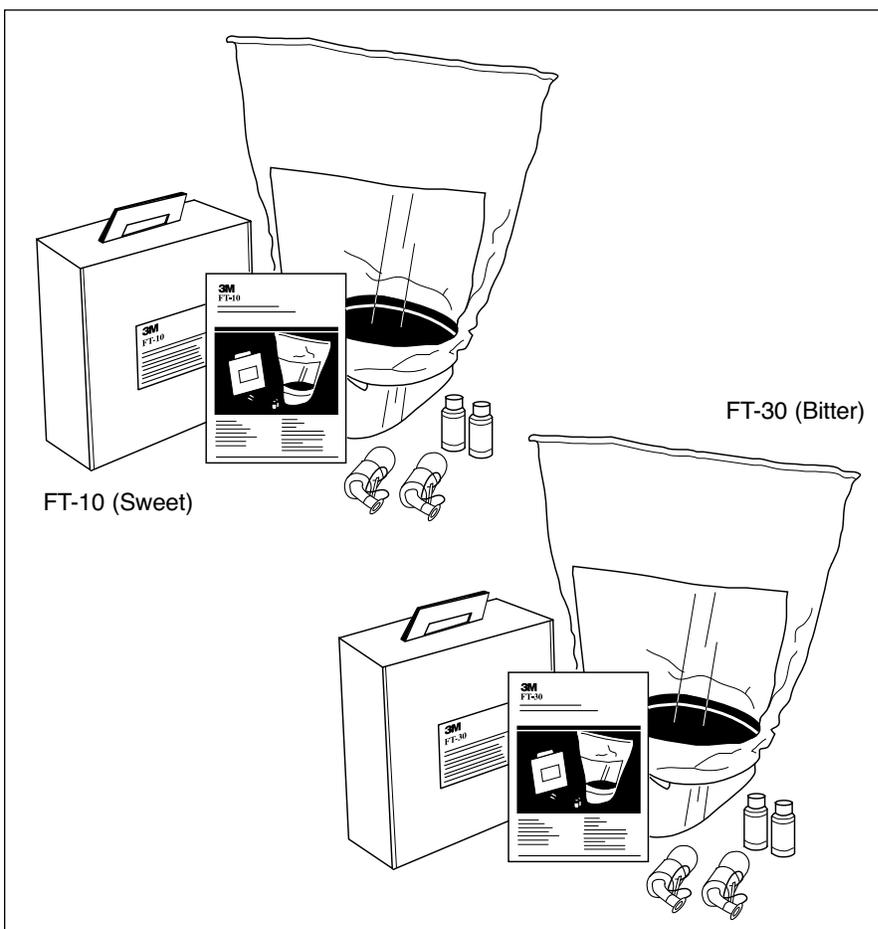
- Water, sodium saccharin

FT-30 Ingredients:

- Water, sodium chloride, denatonium benzoate

Caution: Denatonium benzoate is a very bitter chemical used to keep children from ingesting certain consumer products. Keep out of reach of children.

Caution: If there is evidence of solution contamination, immediately discard the bottle.



3M™ Qualitative Fit Test Apparatus FT-10 (Sweet) and FT-30 (Bitter)

Note: OSHA requires that a respirator medical evaluation be conducted prior to fit testing. Subjects should be informed of the ingredients of the fit test solution and that they will be exposed to a fine mist.

Note: If crystals are present hold closed bottle under a warm stream of water or shake vigorously to dissolve the material.

OSHA:

The 3M™ Qualitative Fit Test Apparatus FT-10 (Sweet) and FT-30 (Bitter) meet the performance criteria for fit testing respirators under the current OSHA Standard for Respiratory Protection: 29 CFR 1910.134.

3M™ Qualitative Fit Test Apparatus FT-10 (Sweet) and FT-30 (Bitter)

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Instructions for Use

Preparation:

1. Attach hood to collar by placing drawstring between flanges on collar. Tighten drawstring and tie with square knot or bow.
2. Pour a small amount (approximately one teaspoonful) of the Sensitivity Test Solution (#1) into the nebulizer labeled “#1 Sensitivity Test Solution.”
3. Pour the same amount of Fit Test Solution (#2) into the second nebulizer labeled “#2 Fit Test Solution.”
4. Immediately recap the bottles.

Sensitivity Test:

This test is done to assure that the person being fit tested can detect either the sweet or the bitter taste of the test solution at very low levels. The Sensitivity Test Solution is a very dilute version of the Fit Test Solution. The test subject should not eat, drink (except water), or chew gum for 15 minutes before the test.

1. Have the test subject put on the hood and collar assembly without a respirator.
2. Position the hood assembly forward so that there is about six inches between the subject’s face and the hood window.
3. Instruct the test subject to breathe through his/her mouth with tongue extended.
4. Using Nebulizer #1 with the Sensitivity Test Solution (#1), inject the aerosol into the hood through the hole in the hood window. Inject ten squeezes of the bulb, fully collapsing and allowing the bulb to expand fully on each squeeze. Both plugs on the nebulizer must be

removed from the openings during use. The nebulizer must be held in an upright position to ensure aerosol generation.

5. Ask the test subject if he/she can detect the sweet or bitter taste of the solution. If tasted, note the number of squeezes as 10 and proceed to the Fit Test.
6. If not tasted, inject an additional ten squeezes of the aerosol into the hood. Repeat with ten more squeezes if necessary. Note whether 20 or 30 squeezes produced a taste response.
7. If 30 squeezes are inadequate, in that the subject does not detect the sweet or bitter taste, the test is ended. Another type of fit test must be used.
8. Remove the test hood, and give the subject a few minutes to clear the taste from his/her mouth. It may be helpful to have the subject rinse his/her mouth with water.

Fit Test:

1. Have the test subject don the respirator and perform a user seal check per the instructions provided on the respirator package.
2. Have subject wear any applicable safety equipment that may be worn during actual respirator use that could interfere with respirator fit. Respirator must be worn at least 5 minutes before testing.
3. Have the subject put on and position the test hood as before, and breathe through his/her mouth with tongue extended.
4. Using Nebulizer #2 with Fit Test Solution (#2), inject the fit test aerosol using the same number of squeezes as required in the

Sensitivity Test (10, 20, or 30).

A minimum of ten squeezes is required, fully collapsing and allowing the bulb to expand fully on each squeeze. The nebulizer must be held in an upright position to ensure aerosol generation.

5. To maintain an adequate concentration of aerosol during this test, inject one-half the number of squeezes (5, 10, or 15) every 30 seconds for the duration of the fit test procedure.
6. After the initial injection of aerosol, ask the test subject to perform the following test exercises for 60 seconds each:
 - a. Normal breathing — In a normal standing position, without talking, the subject shall breathe normally.
 - b. Deep breathing — In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
 - c. Turning head side to side — Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
 - d. Moving head up and down — Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
 - e. Talking — The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from

3M™ Qualitative Fit Test Apparatus FT-10 (Sweet) and FT-30 (Bitter)

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page 3 of 4

Instructions for Use

- a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.
- f. Bending over — The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place may be substituted for this exercise.
- g. Normal breathing — Same as exercise a.
7. The test is terminated at any time the sweet or bitter taste of aerosol is detected by the subject because this indicates an inadequate fit. Wait 15 minutes and perform the fit test again.
8. Repeat the fit test after redonning and readjusting the respirator. A second failure may indicate that a different size or model respirator is needed.
9. If the entire test is completed without the subject detecting the aerosol, the test is successful and respirator fit has been demonstrated.
10. Periodically check the nebulizer to make sure that it is not clogged. If clogging is found, clean the nebulizer and retest.

Cleaning:

At the end of each session or at least every four hours, discard the unused solutions from the nebulizers.

DO NOT pour unused solutions back into bottles. Rinse the nebulizers with warm water to prevent clogging and shake dry. Wipe out the inside of the hood with a damp cloth or paper towel to remove any deposited Test Solution. 3M™ Respirator Cleaning Wipes 504 may be used to clean non-disposable type respirator facepieces between fit tests.

Replacement Parts

Part Number	Description	Packaging
F-11	Sensitivity Solution — Sweet (55 ml Bottle)	1 Each/Box; 6 Boxes/Case
F-12	Fit Test Solution — Sweet (55 ml Bottle)	1 Each/Box; 6 Boxes/Case
FT-31	Sensitivity Solution — Bitter (55 ml Bottle)	1 Each/Box; 6 Boxes/Case
FT-32	Fit Test Solution — Bitter (55 ml Bottle)	1 Each/Box; 6 Boxes/Case
FT-13	Nebulizer	1 Each/Box; 3 Boxes/Case
FT-14	Test Hood (2/Pack)	2 Each/Box; 5 Boxes/Case
FT-15	Collar	1 Each/Box; 1 Box/Case

3M™ Qualitative Fit Test Apparatus FT-10 (Sweet) and FT-30 (Bitter)

Instructions for Use

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

▲WARNING



Respirators help reduce exposure to certain airborne contaminants. **Misuse may result in sickness or death.** Before use, the wearer must read and understand *User Instructions* provided as a part of product packaging. Time use limitations may apply. Call 3M OH&ESD Technical Service at 1-800-243-4630. In Canada, call 1-800-267-4414.

Important

Before using respirators, you must determine the following:

1. The type of contaminant(s) for which the respirator is being selected.
2. The concentration level of contaminant(s).
3. Whether the respirator can be properly fitted on the wearer's face. All respirator instructions, warnings and use and time limitations must also be read and understood by the wearer before use.

Before use of these respirators, a written respiratory protection program must be implemented, meeting all the requirements of OSHA 29 CFR 1910.134, including training, medical evaluation and fit testing.

For more information, please contact:

3M Occupational Health and Environmental Safety Division (OH&ESD)

In the U.S., contact:

Sales Assistance

1-800-328-1667

Technical Assistance

1-800-243-4630

Fax On Demand

1-800-646-1655

Internet

www.3M.com/occsafety

For other 3M products

1-800-3M HELPS

In Canada, contact:

3M Canada Company, OH&ESD

P.O. Box 5757

London, Ontario N6A 4T1

Sales Assistance

1-800-265-1840, ext. 6137

Technical Assistance (Canada only)

1-800-267-4414

Fax On Demand

1-800-646-1655

Internet

www.3M.com/CA/occsafety

Technical Assistance In Mexico

01-800-712-0646

5270-2255, 5270-2119 (Mexico City only)

Technical Assistance In Brazil

0800-132333

Fax On Demand O.U.S. Locations

1-651-732-6530

3M Occupational Health and Environmental Safety Division

3M Center, Building 235-2W-70

St. Paul, MN 55144-1000

3M™ FT-10 (sweet) and 3M™ FT-30 (bitter) fit test kits are suitable for disposable respirators, half facepiece fitted with particulate filters, and full facepieces fitted with particulate filters.¹

! Wearers must be clean-shaven to get a proper fit with a respirator.

! Please note, in order to carry out a full fit test, all the steps detailed below must be followed (Parts 1 & 2).



Part 1 - Sensitivity Testing (The "Taste Test")

1. Add 1/2 teaspoon of sensitivity solution (in red labeled bottle) into the sensitivity nebulizer (marked in red). Visually confirm that the nebulizer produces a cloud of aerosol when the bulb is squeezed.
2. Place test hood on participant. A respirator should not be worn during the sensitivity test.
3. Ask the participant to breathe through their mouth with their tongue slightly extended and ask them to indicate immediately when they taste the solution.
4. Squeezing the bulb completely and aiming the nebulizer to the side rather than directly at the subject, squeeze solution into the hood and count the number of squeezes it takes for the solution to be tasted.
5. If desired, participant may drink some water.



! Stop the test if solution is not tasted after 30 squeezes. Try an alternative solution from below.

Sweet taste	3M-FT11 (sensitivity solution)
	3M-FT12 (test solution)
Bitter taste	3M-FT31 (sensitivity solution)
	3M-FT32 (test solution)

Quantitative fit testing must be used when an assigned protection factor higher than 10 is needed for a full facepiece used in negative pressure mode, per 29 CFR 1910.134

Personal Safety Division
3M Center, Building 235-2W-70
St. Paul, MN 55144-1000
3M PSD products are occupational use only.

In United States of America
Technical Service:
Customer Service:
1-800-243-4630
1-800-328-1667

In Canada
Technical Service:
Customer Service:
3M.ca/Safety

Part 2 - Fit Testing

1. Add 1/2 teaspoon of test solution (in black labeled bottle) into the test nebulizer (marked in black). Visually confirm that the nebulizer produces a cloud of aerosol when the bulb is squeezed.
2. Don the respirator and make sure respirator is fitted correctly. Refer to the 3M fitting instructions or poster for correct procedure. After the respirator is correctly donned, wait five minutes before beginning the next step.
3. Place test hood on participant.

Number of Squeezes Needed in Part 1	Number of Squeezes for Initial Dose	Number of Squeezes for a Replenishing Dose Every 30 Seconds
1-10	10	5
11-20	20	10
21-30	30	15

4. Introduce solution in an initial dose and start the exercises. Add a replenishing dose after every 30 second per the table below.
5. After the initial dose, ask the participant to carry out the 7 exercises shown in turn for 1 minute each and indicate immediately if solution is tasted. Remember to add a replenishing dose every 30 seconds. Throughout the test, remind the participant to breathe through their mouth and visually confirm that the nebulizer is not clogged.
6. Record all results.
7. If solution is not tasted after all 7 exercises: they have passed the test with that specific respirator. If solution is tasted, stop the test, rinse mouth, face, and hands, refit respirator and restart at Part 1 - Sensitivity Testing.

If solution is still tasted on the second attempt, stop the test, rinse hands, mouth, and face, and consider trying an alternative 3M respirator.
Discard all unused solution.

7 Exercises



This product is part of a system that helps reduce exposures to certain airborne contaminants. Before use, the wearer must read and understand these User Instructions. Follow all local regulations. In the U.S., a written respiratory protection program must be implemented meeting all the requirements of 29 CFR 1910.134, including training, fit testing and medical evaluation. In Canada, CSA standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropriate. Misuse may result in injury, sickness or death. For correct use, consult supervisor and User Instructions, or call 3M Technical Service in USA at 1-800-243-4630 and in Canada at 1-800-267-4414.

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Please recycle. February 2019



For a demonstration video, visit the link below.
go.3M.com/Fit

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow

Notes:

Education and Respirator Inspection

Respirator Inspection Checklist	
Face-piece	<input type="checkbox"/> No cracks, tears, or holes <input type="checkbox"/> No face-mask distortion <input type="checkbox"/> No cracked or loose lenses or face shields
Head straps	<input type="checkbox"/> No breaks or tears <input type="checkbox"/> No broken buckles
Valves	<input type="checkbox"/> No residue or dirt, cracks, or tears in valve material
Filters and cartridges	<input type="checkbox"/> NIOSH approved <input type="checkbox"/> Gaskets seat properly <input type="checkbox"/> No cracks or dents in housing <input type="checkbox"/> Proper cartridge for hazards
Air supply systems	<input type="checkbox"/> Breathing-quality air is used <input type="checkbox"/> Supply hoses are in good condition <input type="checkbox"/> Hoses are properly connected <input type="checkbox"/> Settings on regulators and valves are correct

Fit Test Record

According to the PERC Worker Protection Standard (WPS) Respirator Guide:

A written record of the fit test must be maintained for two years from the date conducted and must contain the following information at a minimum:

- Name of handler tested,
- Type of fit-test performed,
- Make, model, and size of the respirator tested,
- Date of the fit-test, and
- Results of the fit-test:
 - » Pass/fail for qualitative fit-test
 - » Fit factor determined, strip chart recording or other record of the test results for a **quantitative** fit-test.

The following record sheet was adapted from Oregon OSHA's materials found at the Pesticide Education Resources Collaborative (PERC). It is meant to serve as a model for a form that can be used during the fit test to record data (sensitivity and fit test results), and then kept on file to satisfy WPS record keeping requirements.

Notes:

Fit Test Record

Date: _____

Employee name: _____

Job/Classification: _____

Farm/Company: _____

Fit test method (check one):

Qualitative saccharin Qualitative bitrex
(for either of these, the respirator must have particulate filters)

Qualitative IAA
(respirator must have organic vapor cartridges)

Taste Threshold Results (circle one)

10 squeezes 20 squeezes 30 squeezes

½ to be administered every 30 seconds during Fit Test Exercises (circle one)

5 squeezes 10 squeezes 15 squeezes

Type of respirator	Make/model/size (Must include all three)	Fit factor/results (Circle one)
		Pass Fail

Person conducting the fit test: _____

Problems the employee encountered with respirator:

Notes:

Resources

1. 3M Quick Reference Guide:
<https://multimedia.3m.com/mws/media/1658130O/quick-reference-guidequalitative-fit-testing.pdf>
2. 3M Fit Testing Website
https://www.3m.com/3M/en_US/safety-centers-of-expertise-us/respiratory-protection/fit-testing/
3. Guide to using the 3M Qualitative Fit Test Kits
<http://multimedia.3m.com/mws/media/473960O/guide-to-using-the-3m-qualitative-fit-test-kits.pdf>
4. OSHA Video and Respirator Protection
https://www.osha.gov/video/respiratory_protection/fittesting_transcript.html
5. Fit Testing a Respirator for Pesticide Applications
<http://extensionpublications.unl.edu/assets/pdf/ec3027.pdf>
6. CDC – A Guide to Air Purifying Respirators
<https://www.cdc.gov/niosh/docs/2018-176/pdfs/2018-176-508.pdf?id=10.26616/NIOSH PUB2018176>
7. OSHA Respiratory Protection Standards
<https://www.osha.gov/SLTC/respiratoryprotection/standards.html>
8. PERC: Pesticide Educational Resources Collaborative
<http://pesticideresources.org//index.html>
9. Worker Protection Standard Compliance Assistance Library
<http://pesticideresources.org/wps/index.html>
10. How to Comply with the 2015 Revised Worker Protection Standard For Agricultural Pesticides: What Owners and Employers Need To Know
<http://pesticideresources.org/wps/htc/index.html>
11. Just for You: Agricultural Employers
<http://pesticideresources.org/wps/jfy/agemp/index.html>
12. WPS Respiratory Protection Guide: Requirements for Employers of Pesticide Handlers
<http://pesticideresources.org/wps/respirators.html>
13. OSHA Info Sheet: Respirator Medical Evaluation Questionnaire
<https://www.osha.gov/Publications/OSHA3789info.pdf>
14. Respirator Protection Program NIH.gov
<https://www.ors.od.nih.gov/sr/dohs/Documents/Respiratoryprotecttionprogram.pdf>

Notes:



For more information:

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