PERC
Pesticide Educational
Resources Collaborative

EPA United States Environmental Protection Agency

How to Comply With the 2015 Revised Worker Protection Standard For Agricultural Pesticides

What Owners and Employers Need To Know

Medical evaluation 40 CFR 170.507(b)(10)(iii) & 29 CFR 1910.134

The requirement for a medical evaluation applies to all respirators, regardless of the type, level of protection, or whether it is tight-fitting or loose-fitting.

Using a respirator may place a physiological burden on handlers that could cause injury if the wearer has certain health problems or medical conditions. This burden varies with the type of respirator worn, the job and conditions in which the respirator is used, and the medical status of the handler.

A medical evaluation must be conducted to determine whether the handler is physically able to use a respirator before the handler is fit tested or required to use the respirator.

The handler employer must identify a physician or other licensed health-care professional (PLHCP) to perform the confidential medical evaluation using a medical questionnaire or exam. **The medical evaluation must be done at no cost to the employee.** The questionnaire may be provided by the PLHCP and must be based on OSHA's Part A of Appendix C to 1910.134. The questionnaire is also available in Spanish. See Appendix D: Contacts and Additional Resources.

Prior to providing the questionnaire to the handler, the handler employer must complete the following information for the PLHCP:

- The type and weight of respirator that the handler will use.
- How long and how frequently the handler will use the respirator.
- How much physical work the handler will do while using the respirator.
- Other PPE the handler will use.
- The temperature and humidity extremes of the working environment.

Handlers must complete a confidential medical questionnaire during normal working hours or at a time and place convenient to the handler. The handler must understand the questions on the medical questionnaire. The handler employer must provide a telephone number for the PLHCP to the employee in case they have questions. ***The handler's responses to the medical questionnaire must not be reviewed by the handler employer and must be provided directly to the PLHCP.***

The handler is to either deliver the questionnaire directly to the PLHCP or seal it in an envelope and mail it directly to the PLHCP.

The PLHCP's final medical determination must be based on information covered by the questionnaire. This information can be obtained by evaluating written responses or by conducting a medical examination that covers all the areas included in the questionnaire. The handler must be given an opportunity to discuss the questionnaire and/or examination results with the PLHCP.

There are online services that conduct respirator medical evaluations. Be sure to select one that is qualified to operate in your state.

A PLHCP may include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

The handler employer is responsible for any costs associated with these additional medical assessments. However, the employer has the option of not allowing the handler to undergo further evaluation. If that is the case, the employer cannot allow that handler to participate in any handler activities that require the use of a respirator.

A medical evaluation is required one time unless another medical evaluation is required for any of the following reasons:

- The medical determination (medical release) is only good for a specified length of time (often 1, 2 or 3 years).
- The employee reports medical signs or symptoms related to respirator use.
- The PLHCP, a supervisor, or the program administrator recommends a re-evaluation.
- Fit-test or other program information indicates a need for re-evaluation.
- When changes in the workplace increase respiratory stress on an employee.
- The initial medical examination demonstrates the need for a follow-up medical examination.

The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

Documentation
The PLHCP will send the handler employer and the handler a written medical determination (medical release) of the medical evaluation results. A handler cannot use a respirator until this written medical determination is received allowing such use. The determination will include the following information:

- Whether the employee is medically able to use a respirator.
- Any restrictions on the employee's use of the respirator.
- The need for follow-up medical evaluations .
- Verification that the PLHCP has given the employee a copy of the written medical determination.

Recordkeeping
Maintain a copy of the written medical determination (medical release) for at least 2 years, or until a subsequent medical evaluation is conducted.

All other information regarding the medical evaluation is strictly confidential and is restricted to only the employee and the PLHCP.

Annual fit testing 40 CFR 170.507(b)(10)(i) & 29 CFR 1910.134(f)

The purpose of a fit test is to ensure that the respirator forms an adequate seal with a handler's face so the respirator provides the intended inhalation exposure protection.

Handlers must be fit tested for **each type of respirator** specified by the pesticide product labeling which they will be using before using the respirator and every 12 months after that. The fit test must be conducted using the exact make, model, style and size of respirator that the handler uses. If any of that changes, the handler must be fit tested with the new respirator.

The requirement for fit testing applies to the use of tight-fitting respirators and does not apply to the use of loose-fitting respirators.

Fit testing must follow OSHA protocols. With respirators, one size does not fit all. Two fit-test methods are available to determine the correct fit for most tight-fitting facepieces.

***Particulate filtering facepiece respirators** are required to be fit tested. Particulate filtering facepiece respirators must be equipped with a sealable surface to enable the respirator to be fit tested.*

- Qualitative fit test (QLFT). This inexpensive, easy-to-perform test relies on the respirator user's response to a test agent such as banana oil, saccharin, or irritant smoke. If the user detects the agent while wearing the respirator, the facepiece-to-face seal is not successful and the test fails. A user who cannot successfully complete the test must be tested with another face piece, make, size, or brand.
  - This method does not require specialized equipment or a trained person to conduct the test however, the person administering this test must be able to prepare test solutions, calibrate equipment, perform test properly, recognize invalid tests and ensure test equipment is in proper working order.
- Quantitative fit test (QNFT). An instrument samples the concentration of a test agent in the ambient atmosphere and inside the user's facepiece. With this information a quantitative fit factor can be calculated that indicates how well the facepiece fits the user; the higher the number the better the fit. This method is more accurate than a qualitative test but also more expensive. The QNFT requires special equipment, and a trained person must conduct the test.

As an example, if a handler uses a particulate filtering facepiece respirator when using one pesticide and a half-face respirator with organic vapor cartridges when using a different pesticide, the handler must be fit tested for both respirators.

Fit testing must be conducted annually and whenever there is a change in the respirator facepiece make, model, style, or size, or if the handler has a physiological change that affects the seal between the respirator's facepiece and the user's face. OSHA's protocols to ensure fit tests are done properly (Appendix A of 29 CFR 1910.134) are to be followed. These protocols may be found at: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9780.

A handler employer is allowed to conduct the fit test for their handlers or they may also use an outside party that may have different respirator makes, models, styles and sizes that may be needed to ensure the handlers can be properly fit.

Recordkeeping
A written record of the fit test must be maintained for 2 years and contain:

- 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:
  - o Pass/fail for qualitative fit test.
  - o Fit factor and strip chart recording or other record of the test results for a quantitative fit test.

Respirator seal check

A seal check is not a fit test!

Anyone using a tight-fitting respirator must perform a respirator seal check before using it to ensure an adequate seal is achieved each time the respirator is put on. There are different ways to check respirator seals including a positive pressure check, a negative pressure check, or following the manufacturer's recommended check method. A seal check is not a fit test!

How to check the seal of tight-fitting respirators

Positive-pressure check:
1. Block the exhalation valve cover with the palm of your hand.
2. Exhale gently into the facepiece, creating a slight positive pressure.
3. If you can feel air leaking under the facepiece, reposition the facepiece and repeat steps 1 and 2 until you have an effective seal.

Negative-pressure check:
1. Cover the inlet openings of the cartridges or canisters with palms of your hands and inhale gently so that the facepiece collapses.
2. Hold your breath for about 10 seconds. The seal is effective if the facepiece stays collapsed.
3. If the facepiece expands or you can feel air leaking under the facepiece, reposition it and repeat steps 1 and 2.

Annual respirator training 40 CFR 170.507(b)(10)(ii) & 29 CFR 1910.134(k)(1)(i)-(vi)

The requirement for respirator training applies to all respirators, regardless of the type, level of protection, or whether it is tight-fitting or loose-fitting.

Handlers must be provided with training in the use of the respirator specified on the pesticide product labeling and demonstrate knowledge of the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator,
- What the limitations and capabilities of the respirator are,
- How to select cartridges and canisters and know the schedule for changing,
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions,
- How to inspect, put on and remove, use, and check the seals of the respirator,
- Respirator maintenance and storage procedures, and
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

Respirator retraining is required annually and when:

- Workplace conditions change,
- A new type of respirator is used, or
- Inadequacies in the employee's knowledge or use indicate the need to retrain.

If a handler has facial hair that comes between the sealing surface of the facepiece and the handler's face or that interferes with valve function, the handler cannot use a respirator that has a tight-fitting facepiece.

Recordkeeping
A written record of the respirator training must be maintained for 2 years and should contain:

- Name and signature of handler trained,
- Date of training,
- Trainer's name, and
- Training topics.

Respirator change-out schedules 170.507(d)

When particulate filtering respirators are used, the filters or the filtering facepiece itself must be replaced before further respirator use when one of the following conditions is met:

- When breathing resistance becomes excessive.
- When the filter element has physical damage or tears.
- According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.
- In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use.

If there is an end-of-service-life indicator on the cartridge or canister, replace the cartridge or canister when indicated.

When gas or vapor removing respirators are used, the gas or vapor removing canisters or cartridges are to be replaced before further respirator use when one of the following conditions is met if there is no end-of-service-life indicator on the cartridge or canister:

- At the first indication of odor, taste, or irritation.
- When breathing resistance becomes excessive.
- When required according to manufacturer's recommendations or pesticide product labeling instructions, whichever is more frequent.
- When the maximum use time is reached as determined by the handler employer's respiratory protection program.
- In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use.

Pesticide Educational Resources Collaborative
UC Davis Extension
1333 Research Park Dr
Davis, CA 95618
pesticideresources.org

U.S. Environmental Protection Agency
Office of Pesticide Programs (MC 7506C)
1200 Pennsylvania Ave, NW
Washington, DC 20460
epa.gov/pesticides

EPA 735-B-16-001
Publication date:
September 2016