

CENTER FOR WORKER HEALTH
AND SAFETY EDUCATION

THE OSHA RESPIRATORY PROTECTION STANDARD (1910.134)

Answer Key

Work together in your small groups to answer the following questions on the **OSHA Respiratory Protection Standard (29 CFR 1910.134)**. Make a note of problems you find in the OSHA Standard.

1. As a way of controlling occupational disease, a company can use respirators instead of engineering controls. [See 1910.134(a)(1)]

TRUE ____ FALSE X

1910.134(a)(1) says, "In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished *as far as feasible* by accepted engineering control measures".

Respirators can only be used when such controls are not feasible or while they are being installed.

Respirator use must comply with the requirements of the OSHA standard.

ASK: What are some examples of engineering controls?

Enclosure of the operation, general and local ventilation, substitution of less toxic materials.

2. Under what conditions does the company have to provide respirators?
[See 1910.134(a)(2)]

When necessary to protect the health of the employee

ASK: What do you think that means?

OSHA means that workers' health needs protection ONLY when the concentration of a chemical in the air is above the OSHA PEL (permissible exposure limit) for that chemical.

Remember, most OSHA PELs are very high. Because they are so high, they may not be exceeded very often. But adverse health effects can occur at levels below the PEL!

3. Which of the following requirements must be part of the company's respirator program? Check all those that must be part of the program.
[See 1910.134(c)(1)(i-ix)]

- a) Respirators need to be regularly cleaned and disinfected X
[1910.134(c)(1)(v)]
- b) Respirator users must be trained in the use and limitations of respirators
X [1910.134(c)(1)(viii)]
- c) Respirators must be replaced once a year
- d) There must be written procedures on the selection and use of respirators
X [1910.134(c)(1)(i)]
- e) Respirators can be selected on the basis of cost alone
- f) There must be fit testing procedures in place for tight fitting facepieces
X [1910.134(c)(1)(iii)] **This is true for both negative pressure and now, positive pressure, facepieces.**

4. Monitoring results show that the concentration of methyl chloroform in the work area is below the OSHA PEL (Permissible Exposure Limit). But the workers still complain of headaches and dizziness, and have asked for respirators.

[Remember paragraph (a)(2) states that respirators must be provided when necessary to protect workers' health. That means when the PEL is exceeded.]

- a) Does the company have to give them respirators if the PEL is not exceeded?

No, the company does not have to provide respirators if airborne concentrations are below the PEL.

- b) Can exposure to chemicals at concentrations below the PEL cause health effects?

Yes. OSHA PELs are generally very high, so exposure below the PEL can still cause harm to some workers. Also, PELs are often for airborne concentrations of chemicals. Some chemicals are absorbers and can cause harm by passing thru a workers skin.

People vary in their reactions to chemicals. Some people are much more sensitive to chemicals than others.

Certain chemicals cause allergies or "sensitization". Once one is sensitized to a chemical, even very small amounts can cause a serious allergic response.

- c) The company decides to provide respirators even though the PEL for methyl chloroform has not been exceeded. Does the company now have to meet all the requirements of a respirator program?
[See 1910.134(c)(2)]

They do not have to comply with the elements of a respirator program as outlined in 1910.134(c)(1), but they must provide the worker with the information contained in Appendix D as long as they have determined that such respirator use will not in itself create a hazard.

The employer must also ensure that any worker using a respirator voluntarily is medically able to use that respirator and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user [1910.134(c)(2)(ii)]. However, this does not apply to voluntary use of dust masks.

5. In order to insure a good fit, the employer must have available at least three different sizes of respirators from at least two different manufacturers. [See 1910.134(d)(1)(iv)]

True ____ False X

This used to be true, but now OSHA says the employer must select respirators from "a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user".

6. A worker has been asked to go into a tank. Before the worker enters the tank, the space is monitored. The level of carbon dioxide in the tank is 20,000 ppm (IDLH of carbon dioxide is 40,000). The level of oxygen is 19.0%. Since the level of carbon dioxide in the tank is less than the IDLH, an APR can be used. [See 1910.134(d)(2)]

True ____ False X

All oxygen-deficient atmospheres are considered IDLH [1910.134(d)(2)(iii)] so air-supplying respirators must be used.

7. If the employer issues air-purifying respirators for gases or vapors, it must be equipped with an end-of-life service indicator for the contaminant or the employer must implement a change schedule for canisters and cartridges that is based on information or data to ensure that canisters or cartridges are changed before the end of their service life. [See 1910.134(d)(3)(iii)]

True X False

This is another new change to the respirator standard. Before there was a recommendation that the chemical have adequate warning properties so you would know when it has permeated the cartridge/canister. That is no longer applicable.

8. A medical evaluation to determine if you are medically fit to wear a respirator must be done by a licensed physician (M.D. or D.O.)
[See 1910.134(e)(2)]

True ____ False X

Medical evaluations can also be conducted by a licensed health care professional (PLHCP) such as an occupational health nurse. This section of the new respirator standard is being contested.

9. Instead of a physical examination, a physician can use a medical questionnaire to determine if a worker is fit to wear a respirator.
[See 1910.134(e)(2)(i)]

True X False

10. You have been given a respirator medical evaluation questionnaire by your employer. You answered "yes" to question 4a and 4b. [Appendix C Part A Section 2]

Because of your response to questions 4a and 4b what must your employer do?
[See 1910.134(e)(3)(i)]

Ensure that a follow-up medical examination is provided for you. This is also true for any worker whose initial medical examination demonstrated the need for a follow-up medical examination.

11. A worker must be fit tested with the same make, model, style, and size of respirator they will be using. [See 1910.134(f)]

True X False

12. How often are workers required to be fit-tested? [See 1910.134(f)(2)]

a. Just once before they are required to wear one

b. Every month

c. Every year

d. Periodically

13. List some conditions which prevent getting a good respirator-to-face seal.
[See 1910.134(f)(3) and 1910.134(g)(1)]

Facial scarring, dental changes, cosmetic surgery, obvious change in body weight, facial hair and glasses (unless worn in a manner that does not interfere with the seal of the facepiece such as using a spectacle kit). Other factors that can create problems in seals include skull cap, dentures, broken nose, or make-up.

14. Which of the following is NOT a QLFT? [See 1910.134(f)(5)]

- a. Saccharin solution
- b. Isoamyl acetate
- c. Portacount**
- d. Denatonium benzoate
- e. Stannic chloride

The others are all agents that can be used in qualitative fit testing. Both qualitative (QLFT) and quantitative (QNFT) fit testing is allowed by the standard.

15. The higher the Fit Factor on a quantitative fit test, the more protective the mask

True X False

16. Recitation of the Rainbow passage is voluntary since it is listed in an appendix.
[See 1910.134(f)(5)]

True____ False **X**

Appendix A is mandatory which means employers must comply with what is contained in that appendix.

ASK: What is the "Rainbow passage"?

It is an exercise to test a worker's ability to talk while wearing a respirator. However, other text can be used in place of the Rainbow passage such the worker reciting a memorized poem or song or counting backward from 100.

17. How often are workers required to be trained in the use of respirators?
[See 1910.134(k)(4)]

- a. Just once before they are required to wear one
- b. Every month

c. Every year

- d. Every two years
- e. Never

18. Stan has been wearing an SCBA at work and the company decides to switch to an SAR which uses the same facepiece. When is Stan required to be trained in the use of the SAR? [See 1910.134(k)(5)]

- a. Never since he will be wearing the same facepiece as the SCBA he was using
- b. When he is due for his next required training
- c. Within 30 days of the switch to the new respirator

d. Before he wears the new respirator

19. Employers are required to ask workers about how they think the respirator program is working and to identify any problems. [See 1910.134(1)(2)]

True X False