DEFENSE LOGISTICS AGENCY
HEADQUARTERS
8725 JOHN J. KINGMAN ROAD
FORT BELVOIR, VIRGINIA 22060-6221

IN REPLY REFER TO DLA-Strategic Materials

SEP 13 2010

MEMORANDUM FOR ALL EMPLOYEES

SUBJECT: Respiratory Protection Program

Attached for your information and implementation is our updated Respiratory Protection Program dated 2010.

This revision replaces previous procedures dated March 2006 and other memoranda. Should you have any questions please contact Jason Boynton at (703) 767-7592.

RON FAVORS
Administrator

Attachment

Federal Recycling Program Printed on Recycled Paper

Defense Logistics Agency Strategic Materials

Respiratory Protection Program

September 2010

DLA STRATEGIC MATERIALS

Respiratory Protection Program

Policy

Engineering measures will be the primary method of controlling inhalation exposure to airborne contaminants.

If feasible engineering controls cannot be instituted or are in the process of being implemented and the work atmosphere contains concentrations of contaminants above the established action levels, appropriate respiratory protection will be made available and will be worn by all affected personnel potentially exposed to those contaminants at the Defense Logistics Agency (DLA) Strategic Materials sites.

In the event airborne contaminants are of sufficient concentration as to be considered immediately dangerous to life or health (IDLH) (for example, fire in mercury warehouse), all persons will evacuate the area; the appropriate fire and rescue personnel will be notified immediately. All such incidents will be reported to the Safety Manager as soon as all persons have been completely removed from the area. The use of self-contained breathing apparatus (SCBA) by DLA personnel will be prohibited. Workers who voluntarily use respiratory protection are required to comply with this policy.

Scope

The following respiratory protection program will be maintained at DLA Strategic Materials facilities, to comply with our policy and Title 29 *Code of Federal Regulations* (CFR) Part 1910.134

Responsibility

The Safety and Health Manager is responsible for the overall operation and administration of the program. Distribution Facility Managers are responsible for the implementation, evaluation, continuing maintenance, and effectiveness of the program at their respective depots. The Respiratory Protection Designee (RPD) is responsible for selecting and ordering respirators, maintaining a sufficient supply of respirators, testing the fit, and training at each depot. Respiratory Protection Evaluators (RPE) are responsible for the periodic review of the depot program activities. All DLA personnel and any individual visiting or performing tasks at our sites that require respiratory protection will conform to all requirements herein.

Note: We prohibit our workers from knowingly entering IDLH atmospheres.

Definitions

Aerosols: Liquid or solid particles dispersed in air. They are small enough to remain airborne for a period of time. Includes mist, smoke, fume, and dusts.

Assigned Protection Factor (APF): The minimum anticipated protection provided by a properly functioning respirator or class of respirators to a given percentage of properly fitted and trained users (see 29 CFR 1910.134[d][3][i][A]).

Clean Shaven: The total absence of facial hair (that is, sideburns, beards, mustaches, and goatees) in the area of the sealing surface of a respirator facepiece.

Contaminant: A harmful, irritating, or nuisance material in concentrations exceeding those normally found in the ambient air.

Dusts: Solid particles generated by handling, crushing, grinding, rapid impact, detonation, or other mechanical actions. Dusts can be classified as organic or inorganic and due to their effect on the body can be further classified as nuisance or irritants.

End-of-Service-Life Indicator (ESLI): A system that warns the respirator user of the approach of the end of adequate respiratory protection (for example, that the sorbent is approaching saturation or is no longer effective).

Escape Only Respirators: A respirator intended to be used only for emergency exit.

Fumes: Solid particles generated by condensation from the gaseous state, such as when a solid metal is volatilized and then condenses in air. The result is referred to as a fume that is very fine.

Gases: Substances that are gaseous at ordinary temperature and pressures.

Immediately Dangerous to Life or Health (IDLH): An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere. Note that some materials (hydrogen fluoride gas and cadmium vapor, for example) may produce immediate transient effects that, even if severe, may pass without medical attention but are followed by a sudden, possibly fatal, collapse 12 to 72 hours after exposure. The victim "feels normal" after recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately dangerous to life or health" (29 CFR 1910.146).

Maximum Use Concentration (MUC): The maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, which is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC usually can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the National Institute of Occupational Safety and Health (NIOSH) recommended exposure limit, permissible exposure limit, short-term exposure limit, ceiling limit, peak limit, or any other exposure limit used for the hazardous substance.

Mists: Formed when a finely divided liquid is suspended in air as a result of splashing, foaming, or atomizing. Examples include oil mists from cutting and grinding operations, acid mists from electroplating, and paint spray mists from spraying.

Oxygen-deficient Atmosphere: An atmosphere containing less than 19.5 percent oxygen.

Particulate Matter: A suspension of fine solid or liquid particles or fibers in air, such as dust, fog, fume, mist, smoke, or sprays.

Pneumoconiosis-producing Dust: Dust that, when inhaled, deposited and retained in the lungs, may produce signs, symptoms, and findings of pulmonary disease.

Qualitative Fit Test (QLFT): The pass/fail fit test to assess the adequacy of the respirator fit that relies on the individual's response to the test agent.

Quantitative Fit Test (QNFT): An assessment of the adequacy of the respirator fit by numerically measuring the amount of leakage into the respirator.

Protection Factor: A measure of the degree of protection afforded by a respirator.

Respiratory Protection Designee (RPD): An individual who has attended a respiratory protection course of instruction on the United States Occupational Safety and Health Administration (OSHA) and NIOSH respiratory protection and fit testing requirements. This individual will be a specialist who has been designated in writing.

Respiratory Protective Evaluator (RPE): An individual who has attended a respiratory protection course of instruction on the OSHA and NIOSH respiratory protection and fit testing requirements and has been assigned by management to conduct annual onsite audits of the program.

Self-contained Breathing Apparatus (SCBA): A device worn by rescue workers, firefighters, and others to provide breathable air in an IDLH atmosphere. The breathing set is not dependent on a remote supply (for example, through a long hose).

Service Life: The measured or estimated period of time before breakthrough of a contaminant (gas or vapor) for a specific chemical cartridge under specified conditions of the test or estimate.

Smoke: The result of the incomplete combustion of carbonaceous material such as coal or oil.

Tight-fitting: A respiratory inlet covering that forms a complete seal with the face.

Threshold Limit Value (TLV): The airborne concentration of a substance to which an individual may be repeatedly exposed 8 hours a day and 40 hours a week without adverse health effects.

Vapors: The gaseous form of substances that are normally in the liquid state. Evaporation is the process by which a liquid is changed into the vapor state and mixes with the surrounding air.

Preselection Information

It is essential that certain information be obtained before a respirator is chosen for protection. Use the flowchart given in Enclosure 1 as a guide.

The following questions should be answered prior to respirator selection:

- Is the atmosphere oxygen deficient?
- Does the concentration found approach that which is considered to be IDLH?
- Is the contaminant a dust, mist, fume, vapor, or gas?
- What is the concentration of the air contaminant? (At times, this can be approximated by prior monitoring results.)
- What is the TLV?
- Is the material readily detectable below the TLV, and does it irritate the skin, nose, or eyes?
- If the air contaminant is a gas or vapor, can it be absorbed by an available gas or vapor cartridge?
- Is the material readily absorbed through the skin?

Selection Criteria (See Enclosure 1)

Respirator selection can begin when answering the preselection questions. However, our personnel will not wear any respirator other than half- or full-mask respirators, or single-use respirators. Oxygen-deficient atmospheres and conditions that require work in SCBA will be accomplished by emergency or contract personnel.

Determine whether eye irritation is a factor. If it is, only full-facepiece respirators that provide eye protection can be used (for example, iodine).

Protection Factor

The next step in the selection process is to determine which devices provide the necessary protection. Respirators will be selected based on their APF, their MUC, and the concentration of the airborne contaminants.

Selection and Fit

Respiratory protective devices will not be issued for any operation until proper selection has been made by the RPD. All respiratory equipment selected will be from those approved by NIOSH under the provisions of 42 CFR Part 84. When applicable, the Interpretive Guidance Documents or material safety data sheets (MSDSs) will be used in determining the type of respiratory protection to be used. A listing is included in Enclosure 2 for cartridge selection to be used with air purifying respirators.

1. The test subject will be allowed to pick the most comfortable respirator from a selection including respirators of various sizes. The selection process will be conducted in a room separate from the fit test chamber to prevent odor fatigue. Prior to the selection process, the test subject will be shown how to put on a respirator, how it should be positioned on the face, how to set the strap tension, and how to determine a comfortable respirator. A mirror will be available to assist the subject in evaluating the fit and positioning of the

respirator. This instruction may not constitute the subject's formal training on respirator use, as it is only a review.

2. The test subject should understand that the employee is being asked to select the respirator that provides the most comfortable fit. Each respirator represents a different size and shape and, if fit and used properly, will provide adequate protection.

3. The test subject holds each facepiece up to the face and eliminates those that obviously do not give a comfortable fit. Normally, selection will begin with a half mask; if a good fit cannot be found, the test subject will be asked to test the full-facepiece respirators.

4. The more comfortable facepieces are noted; the most comfortable mask is donned and worn at least 5 minutes to assess comfort. All donning and adjustments of the facepiece will be performed by the test subject without the assistance from the RPD.

5. Assessment of comfort will include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

   – Positioning of the mask on the nose
   – Room for eye protection
   – Room to talk
   – Positioning mask on face and cheeks

6. The following criteria will be used to help determine the adequacy of the respirator fit:

   – Chin properly placed
   – Strap tension
   – Fit across nose bridge
   – Distance from nose to chin
   – Tendency to slip
   – Self-observation in mirror

7. The test subject will conduct the conventional negative- and positive-pressure fit checks.

Negative- and Positive-pressure Test

Tests will be performed in accordance with Enclosure 5 (Appendix B-1 to 29 CFR 1910.134). If leaks are found, the respirator will be adjusted and retested. Neither the negative- nor positive-pressure test is considered to be a satisfactory initial fitting test. These tests are useful when donning a respirator; however, the position of the face may be affected by touching the face piece to block the air inlets and exits.

Air Purifying Respirators

The following descriptions are for informational purposes only. Self-contained breathing apparatus is not authorized for use by our employees.

Description

Half-mask and full-facepiece respirators are equipped with air purifying cartridges or filters to remove gases, vapors, and particulate matter from the ambient air prior to its inhalation.

Some air purifying respirators are blower operated and provide respirable air to the facepiece or hood under a slight positive pressure.

Limitations

Air purifying respirators do not protect against oxygen-deficient atmospheres nor against skin irritation or absorption through the skin of airborne contaminates.

Respirators are available to individuals who may occasionally deal with nuisance dust processes, such as drumming materials or sampling drummed materials; for use as required by MSDSs; and on an emergency use basis, such as instances of handling potential mercury spills. The depot managers, or designated safety manager, should define a specific cartridge change-out schedule before respirator use based on the respirator type, duration and frequency of respirator use, expected physical work effort, protective equipment and clothing to be worn, and temperature and humidity extremes to ensure that respirator cartridges do not reach their end of life while in use. Depot managers, or designated safety managers, should reference cartridge manufacturer Web sites to determine cartridge end of life.

Dust, Mist, and Fume Respirators

Description

Include all completely assembled respirators designed for use as respiratory protection during entry into or escape from hazardous particulate atmospheres that contain adequate oxygen to support life. Devices may be attached to a powered blower. Each device may contain the following component parts as required: facepiece (half-face 10 or full-face 50), mouthpiece with nose clip, hood or helmet, filter unit, harness, attached blower, and breathing unit. These devices are further described as follows:

- Respirators, either with replaceable or reusable filters, designed as respiratory protection against dust, mist, and fumes having maximum acceptable exposure limits less than 0.05 milligram per cubic meter (mg/m^3) of air
- Respirators with replaceable filters designed as respiratory protection against radon daughters and radon daughters attached to dust, mist, and fumes
- Respirators with replaceable filters designed as respiratory protection against asbestos-containing dust and mist
- Single-use respirators designed as respiratory protection against pneumoconiosis and fibrous-producing dust, or dust and mist, including asbestos

Limitations

These respirators protect against nonvolatile particles only. They provide no protection against gases and vapors. The filter will be replaced or cleaned when breathing becomes difficult due to plugging by retained particles. These respirators will not be used during sandblasting operations.

Chemical Cartridge Respirators

Description: Includes all completely assembled respirators that are designed for use as respiratory protection in areas that are not IDLH, and are described according to the specific gases or vapors against which they are designed to provide respiratory protection.

Limitations: Chemical cartridge respirators will not be used in atmospheres that are IDLH and will be limited to the maximum concentration of gases and vapors specified on the cartridge.

Gas and Vapor Removing Respirators

Description: Packed sorbent beads remove single gases or vapors or a combination of two or more classes of gases and vapors by absorption, chemical reaction, or catalysis, or a combination of these methods.

Limitations: No protection is provided against particulate contaminates, unless specified on the canister or cartridge label. A rise in the canister or cartridge temperature indicates that a gas or vapor is being removed from the respired air. This is not a reliable indicator of performance. An uncomfortably high temperature indicates a high concentration of gas or vapor and requires an immediate return to fresh air.

Supplied Air Respirators

Description: Includes all completely assembled respirators designed for use during entry into or escape from hazardous atmospheres. The respirable air is not limited by the amount any individual can carry as it is supplied by an air hose. They are also lightweight and relatively simple. The Type "C" supplied air respirator is the only supplied air respirator that could be used in the stockpile. It is not for use in IDLH atmospheres. It consists of a source of respirable breathing air; a hose; a detachable coupling; control valve; orifice; demand or pressure demand valve; an arrangement for attaching it to the wearer; and a facepiece, hood, or helmet.

Limitations: Wearers are restricted in movement by the hose or airline and must return to a respirable atmosphere by retracing their route of entry.

Self-contained Breathing Apparatus NOT AUTHORIZED

Description: Includes all completely assembled portable self-contained devices designed for use as respiratory protection during entry into and escape from, or escape only, from hazardous atmospheres.

Limitations: The period of protection is limited to the amount of air in the unit. These devices also reduce the amount of work that can be done due to their weight and bulk.

Voluntary Use

Where respirator use is not required, we may provide respirators at the request of employees. If we determine that voluntary respirator use is permissible, we will provide the respirator users with the information contained in OSHA 29 CFR 1910.134, Appendix D, "Information for Employees Using Respirators When Not Required Under the Standard"

(Enclosure 10). In addition, we have established and implemented the elements of a written respiratory protection program necessary to ensure that any employee 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.
Exception: We are not required to include in our written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

Training

Training will be conducted by the RPD.

No respirator will be issued to any person who has not received proper training. A record of the training will be maintained on the form shown in Enclosure 3.

Minimum training to be provided will include the following:

- Instruction in the nature of the hazard, whether acute, chronic, or both, and a frank appraisal of what may happen if the respirator is not used
- A discussion of the construction, operating principles, and limitations of the respirators, including single-use disposables
- Explanation of why more positive engineering or process-oriented controls are not immediately feasible to reduce or eliminate the need for respirators
- Instruction on procedures for ensuring that the respirator is in proper working condition
- Instruction on fitting the respirator properly and checking for fit and leakage
- Detailed instruction on the proper cleaning and maintenance of the respirator
- Instruction in emergency action to be taken in the event of malfunction
- Training that provides the employees an opportunity to handle the respirator, wear the respirator in a normal atmosphere, and wear the respirator in a test atmosphere

Refresher training will be provided annually.

Fit Testing

It is important that the respirator fit satisfactorily before entry into a contaminated atmosphere. Fit testing will be conducted by the RPD on all persons prior to issuing a respirator. A record of fit testing will be maintained on the form shown in Enclosure 3.

Fit testing cannot be accomplished where facial hair interferes with the respirator facepiece's ability to obtain a proper seal with the individual's face. Subpart I of 29 CFR 1910 requires the use of safety equipment; therefore, individuals who are required to wear respiratory equipment as part of their work assignments will be clean-shaven during respirator fit testing and use.

Before an employee may be required to use any respirator with a negative- or positive-pressure tight-fitting facepiece, the employee will be fit tested with the same make, model, style, and size of respirator that will be used.

Fit Test Protocols

The fit test will be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Enclosure 4 of this plan (Appendix A of 29 CFR 1910.134).

QLFT may only be used to fit test negative-pressure air-purifying respirators that must achieve a fit factor of 100 or less. If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half-facepieces, or if it is equal to or greater than 500 for tight-fitting full-facepieces, then the respirator has passed the QNFT.

Fit testing will be repeated annually.

Issuance of Respirators

Respirators will be assigned to individual workers for their exclusive use. Each person issued a respirator will sign for that respirator, indicating that it is his or her responsibility for possession, care, and maintenance thereof (Enclosure 3). A record of this issuance will be maintained at the depot. Upon termination of employment of the wearer, the respirator will be turned in to the facilities manager. A record of this procedure will be maintained in the file. A respirator that has been "turned in" may not be reissued; render it unserviceable and destroy.

Other than replacement of worn parts, no respirator will be refurbished. If a respirator is found to be defective or damaged beyond repair by simple replacement of basic parts, a new one will be issued. Respirators will be purchased at the discretion of the RPD.

Respirator Use

Respirators will be inspected by the wearer before and after each day's use. The inspection will include negative- and positive-pressure checks for leakage.

Respirators issued to one worker will not be issued to another.

If a worker is not clean-shaven, he will not be allowed to wear a respirator, even though the particular device has previously fit satisfactorily.

Glasses with standard temple bars will not be worn with full-facepiece respirators. Glasses and goggles are permitted with half masks (air purifying) or single-use respirators only if they do not interfere with the normal wearing and sealing of the mask.

Avoid using contact lenses while in a respiratory protection environment.

Parts from one manufacturer's respirator will never be used with equipment manufactured by another.

Caution: Hard copies of this document may not be the current version. Refer to the "I Am The Key" link on the DLA SM's home page to verify the current version, using the "version" date found on the document.

Workers will not remove their respirators in the work area. If it becomes necessary to remove the mask, the worker will first leave the area.

Single-use respirators will be discarded at the end of each day's use, or more frequently when necessary.

Filters on half masks will be discarded at the end of each week's work, prior to each cleaning, and at any time the user indicates breathing difficulties.

Filters used to protect against radioactive materials will be discarded daily in a manner consistent with Nuclear Regulatory Commission regulations and guidelines.

Cleaning, Maintenance, Storage, and Inspection of Respirators

To ensure that a respirator is serviceable beyond its first day of use, a maintenance program will be established. The major provisions of a maintenance program include but will not be limited to the following:

- Each respirator will be cleaned after each day's use or more often if necessary in accordance with Enclosure 6 (Appendix B-2 of 29 CFR 1910.134).
- Each respirator must be inspected as it is cleaned and all deficiencies reported to the RPD. If found to be damaged beyond simple repair by replacement parts, a new respirator will be issued for use.
- The respirators will be equipped with an ESLI certified by NIOSH for the contaminant of concern. If there is no ESLI appropriate for conditions at the facility, the site will implement a change schedule for canisters and cartridges based on objective data that will ensure that canisters and cartridges are changed before the ESLI. A change-out schedule will be developed based on humidity, difficulty of work, and type of contaminants. Change-outs of disposable respirators will occur no less than once per day, or more frequently based on the manufacturer's recommendations.
- After inspection and cleaning, respirators will be stored in a clean, dry, sanitary location so as to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators will be stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer sitting in an abnormal position. Respirators should not be stored in lockers or toolboxes unless they are in carrying cases or cartons.
- Respirator inspection will be conducted prior to each use.
- At each depot, a continuing inventory and supply of all respirators (by make and model) and cleaning equipment will be maintained.
- Appropriate surveillance of work area conditions and degree of employee exposure will be conducted by the Safety Manager.
- The Safety Manager or the RPE will make an annual inspection at each depot to ensure that respirators are properly selected, used, cleaned, and maintained and to determine the continued effectiveness of this respiratory protection program.

Supply Requirements

Our facilities are required to maintain a supply of respirator parts and supplies (including straps, valve covers, pre-filters, cartridges, valve flaps, and respirator cleaning supplies) at each of the active depots.

Medical Requirements

The employee's medical status will be evaluated, and his or her ability to use respiratory protection will be reviewed annually. No employee will be assigned to tasks requiring the use of respirators unless a physician determines that the employee is physically able to perform the tasks assigned and use the respiratory equipment. Prior to the medical examination, each employee will complete the form in Enclosure 7 and the Medical Evaluation Questionnaire in Enclosure 8 (Appendix C to 29 CFR 1910.134) and provide them to the health care professional conducting the evaluation. The form in Enclosure 7 will be used to record the employee's ability to use respiratory equipment; copies signed by the physician will be returned to the Safety and Health Manager and the Depot Manager.

Respiratory Protection Program Documents

Each facility is required to establish and maintain a respiratory protection user library. The library should include the following reference documents:

- NIOSH pocket guide and respiratory list
- American National Standards Institute (ANSI) Z88
- Respiratory protection regulations (29 CFR 1910.134)
- A copy of the current respiratory protection program plan

Annual Review

The execution of this program at each depot will be reviewed by the Safety and Health Manager or an RPE. The review will include all facets of the program as described in the preceding pages. A written report will be prepared using DLAH Form 30 as a cover sheet and the checklist shown in Enclosure 9. The report will be retained by the Safety and Health Manager with copies to the Chief, Operations Division and the Depot Manager. The report will specifically note compliance or noncompliance with selection, fit testing, medical examinations, training, issuance, use, cleaning, maintenance, storage, and inspection of respirators.

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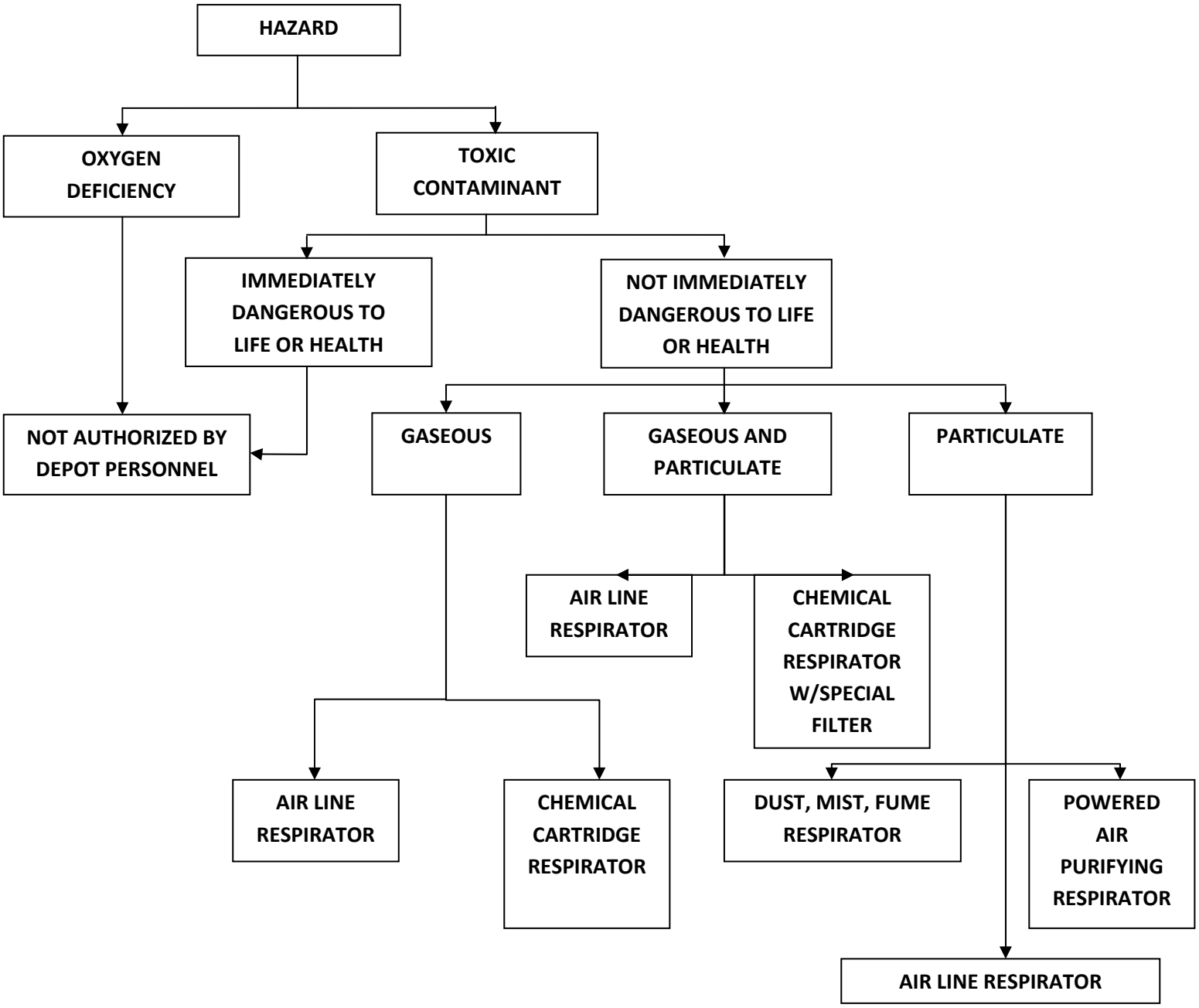
ENCLOSURE 1


HAZARD
OXYGEN DEFICIENCY
TOXIC CONTAMINANT
IMMEDIATELY DANGEROUS TO LIFE OR HEALTH
NOT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH
NOT AUTHORIZED BY DEPOT PERSONNEL
GASEOUS
GASEOUS AND PARTICULATE
PARTICULATE
AIR LINE RESPIRATOR
CHEMICAL CARTRIDGE RESPIRATOR W/SPECIAL FILTER
AIR LINE RESPIRATOR
CHEMICAL CARTRIDGE RESPIRATOR
DUST, MIST, FUME RESPIRATOR
POWERED AIR PURIFYING RESPIRATOR
AIR LINE RESPIRATOR

ENCLOSURE 2

FREQUENTLY USED CARTRIDGES/FILTERS	
CARTRIDGE/FILTER	**TYPE COLOR**
P100 PARTICULATES INCLUDING DUST, MISTS, FUMES (HEPA) TO INCLUDE ASBESTOS, RADIONUCLIDE	PURPLE (MAGENTA)
MERCURY AND "P95, P99, R95, R99, R100" PARTICULATES	ORANGE
MULTI-CONTAMINANT	OLIVE
ACID GAS	WHITE
ORGANIC VAPORS	BLACK
AMMONIA GAS	GREEN
ACID GAS AND ORGANIC VAPORS	YELLOW
"N95, N99, N100" OIL-FREE PARTICULATES	TEAL

UNITED STATES NIOSH STANDARDS DEFINE THE FOLLOWING CATEGORIES OF PARTICULATE FILTERS:

PARTICULATE FILTER CATEGORIES		
OIL RESISTANCE	**RATING**	**DESCRIPTION**
NOT OIL RESISTANT	N95	FILTERS AT LEAST 95% OF AIRBORNE PARTICLES
	N99	FILTERS AT LEAST 99% OF AIRBORNE PARTICLES
	N100	FILTERS AT LEAST 99.97% OF AIRBORNE PARTICLES
OIL RESISTANT	R95	FILTERS AT LEAST 95% OF AIRBORNE PARTICLES
	R99*	FILTERS AT LEAST 99% OF AIRBORNE PARTICLES
	R100*	FILTERS AT LEAST 99.97% OF AIRBORNE PARTICLES
OIL PROOF	P95	FILTERS AT LEAST 95% OF AIRBORNE PARTICLES
	P99*	FILTERS AT LEAST 99% OF AIRBORNE PARTICLES
	P100	FILTERS AT LEAST 99.97% OF AIRBORNE PARTICLES
*NO NIOSH APPROVALS ARE HELD BY THIS TYPE OF DISPOSABLE PARTICULATE RESPIRATOR.		

ENCLOSURE 3

TRAINING RECORD			
NAME:			
DEPOT:			
JOB TITLE:			
LAST PHYSICAL:			
RESPIRATOR TRAINING DATE:			
FIT TEST DATE:			
TYPE OF TEST (CHECK ONE):			
QUALITATIVE		**QUANTITATIVE**	
NOTE: QLFT/QNFT RESULTS OR FIT FACTOR AND STRIP CHART RECORDINGS SHALL BE MAINTAINED ALONG WITH THIS RECORD.			
RESPIRATOR APPROVAL NUMBER:			
TYPE OF RESPIRATOR (CHECK ONE):			
AIR PURIFYING (CARTRIDGE TYPE)		**ATMOSPHERE SUPPLYING (CARTRIDGE TYPE)**	
TYPE OF FACE PIECE (CHECK ONE):			
HALF MASK:		**FULL FACE**	
SIZE (CHECK ONE):	**SMALL:**	**MEDIUM:**	**LARGE:**
MANUFACTURER MODEL:			
IN THE OPINION OF THE UNDERSIGNED, THE EMPLOYEE HAS DEMONSTRATED AN UNDERSTANDING OF THE TRAINING PROVIDED AND THE ABILITY TO USE THE RESPIRATOR PROPERLY.			
NAME/SIGNATURE OF TESTER:			
I HAVE BEEN ISSUED THE ABOVE MENTIONED RESPIRATOR AND HAVE BEEN INSTRUCTED ON ITS PROPER CARE, USE, MAINTENANCE, AND LIMITATIONS. I UNDERSTAND THAT AS THE WEARER, I AM RESPONSIBLE FOR THE POSSESSION, CARE, AND MAINTENANCE OF THE RESPIRATOR, IN ACCORDANCE WITH THE "ISSUANCE OF RESPIRATORS" SECTION ON PAGE 9. I HAVE BEEN GIVEN ACCESS TO THE INTERPRETIVE GUIDANCE DOCUMENTS, AND MATERIAL SAFETY DATA SHEETS FOR THE MATERIALS STORED AT THE DEPOT, AND UNDERSTAND WHEN RESPIRATORY PROTECTION IS REQUIRED. I UNDERSTAND THAT I MUST BE CLEAN-SHAVEN FOR THE RESPIRATOR TO FIT AND OPERATE PROPERLY IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARD 29 CFR 1910.134.			
NAME/SIGNATURE OF EMPLOYEE TESTED:			
DATE:			

ENCLOSURE 4

UNITED STATES DEPARTMENT OF LABOR
Occupational Safety & Health Administration

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Regulations (Standards - 29 CFR) - Table of Contents

• **Part Number:**	1910
• **Part Title:**	Occupational Safety and Health Standards
• **Subpart:**	I
• **Subpart Title:**	Personal Protective Equipment
• **Standard Number:**	1910.134 App A
• **Title:**	Fit Testing Procedures (Mandatory).

Appendix A to § 1910.134: Fit Testing Procedures (Mandatory)

Part I. OSHA-Accepted Fit Test Protocols

A. Fit Testing Procedures -- General Requirements

The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

1. The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.

3. The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.

4. The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.

5. The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in the following item A.6. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.

6. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

(a) Position of the mask on the nose

(b) Room for eye protection

(c) Room to talk

(d) Position of mask on face and cheeks

7. The following criteria shall be used to help determine the adequacy of the respirator fit:

(a) Chin properly placed;

(b) Adequate strap tension, not overly tightened;

(c) Fit across nose bridge;

(d) Respirator of proper size to span distance from nose to chin;

(e) Tendency of respirator to slip;

(f) Self-observation in mirror to evaluate fit and respirator position.

8. The test subject shall conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B-1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B-1. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the user seal check tests.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties.

11. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.

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12. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

13. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.

14. Test Exercises.

(a) Employers must perform the following test exercises for all fit testing methods prescribed in this appendix, except for the CNP quantitative fit testing protocol and the CNP REDON quantitative fit testing protocol. For these two protocols, employers must ensure that the test subjects (***i.e.***, employees) perform the exercise procedure specified in Part I.C.4(b) of this appendix for the CNP quantitative fit testing protocol, or the exercise procedure described in Part I.C.5(b) of this appendix for the CNP REDON quantitative fit-testing protocol. For the remaining fit testing methods, employers must ensure that employees perform the test exercises in the appropriate test environment in the following manner:

(1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.

(2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.

(3) 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.

(4) 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).

(5) 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 a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

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.

(6) Grimace. The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)

(7) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.

(8) Normal breathing. Same as exercise (1).

(b) Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

B. Qualitative Fit Test (QLFT) Protocols

1. General

(a) The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order.

(b) The employer shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

2. Isoamyl Acetate Protocol

Note: This protocol is not appropriate to use for the fit testing of particulate respirators. If used to fit test particulate respirators, the respirator must be equipped with an organic vapor filter.

(a) Odor Threshold Screening

Odor threshold screening, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate at low levels.

(1) Three 1 liter glass jars with metal lids are required.

(2) Odor-free water (e.g., distilled or spring water) at approximately 25 deg. C (77 deg. F) shall be used for the solutions.

(3) The isoamyl acetate (IAA) (also known at isopentyl acetate) stock solution is prepared by adding 1 ml of pure IAA to 800 ml of odor-free water in a 1 liter jar, closing the lid and shaking for 30 seconds. A new solution shall be prepared at least weekly.

(4) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well-ventilated to prevent the odor of IAA from becoming evident in the general room air where

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testing takes place.

(5) The odor test solution is prepared in a second jar by placing 0.4 ml of the stock solution into 500 ml of odor-free water using a clean dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.

(6) A test blank shall be prepared in a third jar by adding 500 cc of odor-free water.

(7) The odor test and test blank jar lids shall be labeled (e.g., 1 and 2) for jar identification. Labels shall be placed on the lids so that they can be peeled off periodically and switched to maintain the integrity of the test.

(8) The following instruction shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(9) The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

(10) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.

(11) If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

(b) Isoamyl Acetate Fit Test

(1) The fit test chamber shall be a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the test subject's head. If no drum liner is available, a similar chamber shall be constructed using plastic sheeting. The inside top center of the chamber shall have a small hook attached.

(2) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors.

(3) After selecting, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well-ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(4) A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.

(5) Upon entering the test chamber, the test subject shall be given a 6-inch by 5-inch piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 ml of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber. An IAA test swab or ampule may be substituted for the IAA wetted paper towel provided it has been demonstrated that the alternative IAA source will generate an IAA test atmosphere with a concentration equivalent to that generated by the paper towel method.

(6) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject; to explain the fit test, the importance of his/her cooperation, and the purpose for the test exercises; or to demonstrate some of the exercises.

(7) If at any time during the test, the subject detects the banana-like odor of IAA, the test is failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(8) If the test is failed, the subject shall return to the selection room and remove the respirator. The test subject shall repeat the odor sensitivity test, select and put on another respirator, return to the test area and again begin the fit test procedure described in (b) (1) through (7) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait at least 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(9) If the subject passes the test, the efficiency of the test procedure shall be demonstrated by having the subject break the respirator face seal and take a breath before exiting the chamber.

(10) When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test, so that there is no significant IAA concentration buildup in the chamber during subsequent tests. The used towels shall be kept in a self-sealing plastic bag to keep the test area from being contaminated.

3. Saccharin Solution Aerosol Protocol

The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste threshold screening. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a 3/4-inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall

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breathe through his/her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a sweet taste.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold check solution into the enclosure. The nozzle is directed away from the nose and mouth of the person. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The threshold check solution is prepared by dissolving 0.83 gram of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit test solution (see (b)(5) below) in 100 ml of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(7) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted. If the test subject reports tasting the sweet taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject is unable to taste saccharin and may not perform the saccharin fit test.

Note to paragraph 3. (a): If the test subject eats or drinks something sweet before the screening test, he/she may be unable to taste the weak saccharin solution.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Saccharin solution aerosol fit test procedure.

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in 3. (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in section I. A. of this appendix. The respirator shall be properly adjusted and equipped with a particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 ml of warm water.

(6) As before, the test subject shall breathe through the slightly open mouth with tongue extended, and report if he/she tastes the sweet taste of saccharin.

(7) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of saccharin fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test. A minimum of 10 squeezes is required.

(8) After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the original number of squeezes used initially (e.g., 5, 10 or 15).

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected. If the test subject does not report tasting the saccharin, the test is passed.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

(12) Since the nebulizer has a tendency to clog during use, the test operator must make periodic checks of the nebulizer to ensure that it is not clogged. If clogging is found at the end of the test session, the test is invalid.

4. Bitrex™ (Denatonium Benzoate) Solution Aerosol Qualitative Fit Test Protocol

The Bitrex™ (Denatonium benzoate) solution aerosol QLFT protocol uses the published saccharin test protocol because that protocol is

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widely accepted. Bitrex is routinely used as a taste aversion agent in household liquids which children should not be drinking and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste Threshold Screening.

The Bitrex taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of Bitrex.

(1) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches (30.5 cm) in diameter by 14 inches (35.6 cm) tall. The front portion of the enclosure shall be clear from the respirator and allow free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a \3/4\ inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his or her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a bitter taste

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the Threshold Check Solution into the enclosure. This Nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The Threshold Check Solution is prepared by adding 13.5 milligrams of Bitrex to 100 ml of 5% salt (NaCl) solution in distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that the bulb collapses completely, and is then released and allowed to fully expand.

(7) An initial ten squeezes are repeated rapidly and then the test subject is asked whether the Bitrex can be tasted. If the test subject reports tasting the bitter taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the Bitrex is not tasted after 30 squeezes (step 10), the test subject is unable to taste Bitrex and may not perform the Bitrex fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken to dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Bitrex Solution Aerosol Fit Test Procedure.

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure as that described in 4. (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected according to section I. A. of this appendix. The respirator shall be properly adjusted and equipped with any type particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 337.5 mg of Bitrex to 200 ml of a 5% salt (NaCl) solution in warm water.

(6) As before, the test subject shall breathe through his or her slightly open mouth with tongue extended, and be instructed to report if he/she tastes the bitter taste of Bitrex.

(7) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of the fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test.

(8) After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes used

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initially (e.g., 5, 10 or 15).

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of Bitrex is detected. If the test subject does not report tasting the Bitrex, the test is passed.

(11) If the taste of Bitrex is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

5. Irritant Smoke (Stannic Chloride) Protocol

This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.

(a) General Requirements and Precautions

(1) The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter (s).

(2) Only stannic chloride smoke tubes shall be used for this protocol.

(3) No form of test enclosure or hood for the test subject shall be used.

(4) The smoke can be irritating to the eyes, lungs, and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. Sensitivity varies, and certain individuals may respond to a greater degree to irritant smoke. Care shall be taken when performing the sensitivity screening checks that determine whether the test subject can detect irritant smoke to use only the minimum amount of smoke necessary to elicit a response from the test subject.

(5) The fit test shall be performed in an area with adequate ventilation to prevent exposure of the person conducting the fit test or the build-up of irritant smoke in the general atmosphere.

(b) Sensitivity Screening Check

The person to be tested must demonstrate his or her ability to detect a weak concentration of the irritant smoke.

(1) The test operator shall break both ends of a ventilation smoke tube containing stannic chloride, and attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute, or an aspirator squeeze bulb. The test operator shall cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.

(2) The test operator shall advise the test subject that the smoke can be irritating to the eyes, lungs, and nasal passages and instruct the subject to keep his/her eyes closed while the test is performed.

(3) The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties and to determine if he/she can detect the irritating properties of the smoke. The test operator shall carefully direct a small amount of the irritant smoke in the test subject's direction to determine that he/she can detect it.

(c) Irritant Smoke Fit Test Procedure

(1) The person being fit tested shall don the respirator without assistance, and perform the required user seal check(s).

(2) The test subject shall be instructed to keep his/her eyes closed.

(3) The test operator shall direct the stream of irritant smoke from the smoke tube toward the faceseal area of the test subject, using the low flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the facepiece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.

(4) If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.

(5) The exercises identified in section I.A. 14. of this appendix shall be performed by the test subject while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches.

(6) If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity check and fit test procedure.

(7) Each test subject passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check, with the smoke from the same smoke tube used during the fit test, once the respirator has been removed, to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.

(8) If a response is produced during this second sensitivity check, then the fit test is passed.

C. Quantitative Fit Test (QNFT) Protocols

The following quantitative fit testing procedures have been demonstrated to be acceptable: Quantitative fit testing using a non-hazardous test aerosol (such as corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS], or sodium chloride) generated in a test chamber, and employing instrumentation to quantify the fit of the respirator; Quantitative fit testing using ambient aerosol as the test agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit; Quantitative fit testing using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a facepiece to quantify the respirator fit.

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1. General

(a) The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and ensure that test equipment is in proper working order.

(b) The employer shall ensure that QNFT equipment is kept clean, and is maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.

2. Generated Aerosol Quantitative Fit Testing Protocol

(a) Apparatus.

(1) Instrumentation. Aerosol generation, dilution, and measurement systems using particulates (corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS] or sodium chloride) as test aerosols shall be used for quantitative fit testing.

(2) Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without disturbing the test agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the test agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(3) When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high efficiency particulate air (HEPA) or P100 series filter supplied by the same manufacturer.

(4) The sampling instrument shall be selected so that a computer record or strip chart record may be made of the test showing the rise and fall of the test agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers that integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(5) The combination of substitute air-purifying elements, test agent and test agent concentration shall be such that the test subject is not exposed in excess of an established exposure limit for the test agent at any time during the testing process, based upon the length of the exposure and the exposure limit duration.

(6) The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g., where the respirator is probed), a free air flow is allowed into the sampling line at all times, and there is no interference with the fit or performance of the respirator. The in-mask sampling device (probe) shall be designed and used so that the air sample is drawn from the breathing zone of the test subject, midway between the nose and mouth and with the probe extending into the facepiece cavity at least 1/4 inch.

(7) The test setup shall permit the person administering the test to observe the test subject inside the chamber during the test.

(8) The equipment generating the test atmosphere shall maintain the concentration of test agent constant to within a 10 percent variation for the duration of the test.

(9) The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event and its being recorded.

(10) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.

(11) The exhaust flow from the test chamber shall pass through an appropriate filter (i.e., high efficiency particulate filter) before release.

(12) When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

(13) The limitations of instrument detection shall be taken into account when determining the fit factor.

(14) Test respirators shall be maintained in proper working order and be inspected regularly for deficiencies such as cracks or missing valves and gaskets.

(b) Procedural Requirements.

(1) When performing the initial user seal check using a positive or negative pressure check, the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these pressure checks.

(2) The use of an abbreviated screening QLFT test is optional. Such a test may be utilized in order to quickly identify poor fitting respirators that passed the positive and/or negative pressure test and reduce the amount of QNFT time. The use of the CNC QNFT instrument in the count mode is another optional method to obtain a quick estimate of fit and eliminate poor fitting respirators before going on to perform a full QNFT.

(3) A reasonably stable test agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain types of test units, the determination of the test agent's stability may be established after the test subject has entered the test environment.

(4) Immediately after the subject enters the test chamber, the test agent concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.

(5) A stable test agent concentration shall be obtained prior to the actual start of testing.

(6) Respirator restraining straps shall not be over-tightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonably comfortable fit typical of normal use. The respirator shall not be adjusted once the fit test exercises begin.

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(7) The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested.

(8) Calculation of fit factors.

(i) The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration measured inside the respirator for each test exercise except the grimace exercise.

(ii) The average test chamber concentration shall be calculated as the arithmetic average of the concentration measured before and after each test (i.e., 7 exercises) or the arithmetic average of the concentration measured before and after each exercise or the true average measured continuously during the respirator sample.

(iii) The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:

(A) Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers that calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.

(B) Maximum peak penetration method means the method of determining test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.

(C) Integration by calculation of the area under the individual peak for each exercise except the grimace exercise. This includes computerized integration.

(D) The calculation of the overall fit factor using individual exercise fit factors involves first converting the exercise fit factors to penetration values, determining the average, and then converting that result back to a fit factor. This procedure is described in the following equation:

$$\text{Overall Fit Factor} = \frac{\text{Number of exercises}}{1/ff_1 + 1/ff_2 + 1/ff_3 + 1/ff_4 + 1/ff_5 + 1/ff_6 + 1/ff_7 + 1/ff_8}$$

Where ff_1, ff_2, ff_3, etc. are the fit factors for exercises 1, 2, 3, etc.

(9) The test subject shall not be permitted to wear a half mask or quarter facepiece respirator unless a minimum fit factor of 100 is obtained, or a full facepiece respirator unless a minimum fit factor of 500 is obtained.

(10) Filters used for quantitative fit testing shall be replaced whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media.

3. Ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol.

The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount ™) protocol quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device, installed on the respirator, that allows the probe to sample the air from inside the mask. A probed respirator is required for each make, style, model, and size that the employer uses and can be obtained from the respirator manufacturer or distributor. The CNC instrument manufacturer, TSI Inc., also provides probe attachments (TSI sampling adapters) that permit fit testing in an employee's own respirator. A minimum fit factor pass level of at least 100 is necessary for a half-mask respirator and a minimum fit factor pass level of at least 500 is required for a full facepiece negative pressure respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Portacount Fit Test Requirements.

(1) Check the respirator to make sure the sampling probe and line are properly attached to the facepiece and that the respirator is fitted with a particulate filter capable of preventing significant penetration by the ambient particles used for the fit test (e.g., NIOSH 42 CFR 84 series 100, series 99, or series 95 particulate filter) per manufacturer's instruction.

(2) Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual shall already have been trained on how to wear the respirator properly.

(3) Check the following conditions for the adequacy of the respirator fit: Chin properly placed; Adequate strap tension, not overly tightened; Fit across nose bridge; Respirator of proper size to span distance from nose to chin; Tendency of the respirator to slip; Self-observation in a mirror to evaluate fit and respirator position.

(4) Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting facepiece, try another size of the same model respirator, or another model of respirator.

(5) Follow the manufacturer's instructions for operating the Portacount and proceed with the test.

(6) The test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(7) After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of

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the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.

(b) Portacount Test Instrument.

(1) The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.

(2) Since the pass or fail criterion of the Portacount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance in this Appendix.

(3) A record of the test needs to be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style, and size of respirator used; and date tested.

4. Controlled negative pressure (CNP) quantitative fit testing protocol.

The CNP protocol provides an alternative to aerosol fit test methods. The CNP fit test method technology is based on exhausting air from a temporarily sealed respirator facepiece to generate and then maintain a constant negative pressure inside the facepiece. The rate of air exhaust is controlled so that a constant negative pressure is maintained in the respirator during the fit test. The level of pressure is selected to replicate the mean inspiratory pressure that causes leakage into the respirator under normal use conditions. With pressure held constant, air flow out of the respirator is equal to air flow into the respirator. Therefore, measurement of the exhaust stream that is required to hold the pressure in the temporarily sealed respirator constant yields a direct measure of leakage air flow into the respirator. The CNP fit test method measures leak rates through the facepiece as a method for determining the facepiece fit for negative pressure respirators. The CNP instrument manufacturer Occupational Health Dynamics of Birmingham, Alabama also provides attachments (sampling manifolds) that replace the filter cartridges to permit fit testing in an employee's own respirator. To perform the test, the test subject closes his or her mouth and holds his/her breath, after which an air pump removes air from the respirator facepiece at a pre-selected constant pressure. The facepiece fit is expressed as the leak rate through the facepiece, expressed as milliliters per minute. The quality and validity of the CNP fit tests are determined by the degree to which the in-mask pressure tracks the test pressure during the system measurement time of approximately five seconds. Instantaneous feedback in the form of a real-time pressure trace of the in-mask pressure is provided and used to determine test validity and quality. A minimum fit factor pass level of 100 is necessary for a half-mask respirator and a minimum fit factor of at least 500 is required for a full facepiece respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) CNP Fit Test Requirements.

(1) The instrument shall have a non-adjustable test pressure of 15.0 mm water pressure.

(2) The CNP system defaults selected for test pressure shall be set at -- 15 mm of water (-0.58 inches of water) and the modeled inspiratory flow rate shall be 53.8 liters per minute for performing fit tests.

(**Note:** CNP systems have built-in capability to conduct fit testing that is specific to unique work rate, mask, and gender situations that might apply in a specific workplace. Use of system default values, which were selected to represent respirator wear with medium cartridge resistance at a low-moderate work rate, will allow inter-test comparison of the respirator fit.)

(3) The individual who conducts the CNP fit testing shall be thoroughly trained to perform the test.

(4) The respirator filter or cartridge needs to be replaced with the CNP test manifold. The inhalation valve downstream from the manifold either needs to be temporarily removed or propped open.

(5) The employer must train the test subject to hold his or her breath for at least 10 seconds.

(6) The test subject must don the test respirator without any assistance from the test administrator who is conducting the CNP fit test. The respirator must not be adjusted once the fit-test exercises begin. Any adjustment voids the test, and the test subject must repeat the fit test.

(7) The QNFT protocol shall be followed according to section I. C. 1. of this appendix with an exception for the CNP test exercises.

(b) CNP Test Exercises.

(1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally for 1 minute. After the normal breathing exercise, the subject needs to hold head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply for 1 minute, being careful not to hyperventilate. After the deep breathing exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during test measurement.

(3) Turning head side to side. Standing in place, the subject shall slowly turn his or her head from side to side between the extreme positions on each side for 1 minute. The head shall be held at each extreme momentarily so the subject can inhale at each side. After the turning head side to side exercise, the subject needs to hold head full left and hold his or her breath for 10 seconds during test measurement. Next, the subject needs to hold head full right and hold his or her breath for 10 seconds during test measurement.

(4) Moving head up and down. Standing in place, the subject shall slowly move his or her head up and down for 1 minute. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling). After the moving head up and down exercise, the subject shall hold his or her head full up and hold his or her breath for 10 seconds during test measurement. Next, the subject shall hold his or her head full down and hold his or her breath for 10 seconds during test measurement.

(5) 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 a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song for 1 minute. After the talking exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.

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(6) Grimace. The test subject shall grimace by smiling or frowning for 15 seconds.

(7) Bending Over. The test subject shall bend at the waist as if he or she were to touch his or her toes for 1 minute. Jogging in place shall be substituted for this exercise in those test environments such as shroud-type QNFT units that prohibit bending at the waist. After the bending over exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(8) Normal Breathing. The test subject shall remove and re-don the respirator within a one-minute period. Then, in a normal standing position, without talking, the subject shall breathe normally for 1 minute. After the normal breathing exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement. After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of a respirator shall be tried.

(c) CNP Test Instrument.

(1) The test instrument must have an effective audio-warning device, or a visual-warning device in the form of a screen tracing, that indicates when the test subject fails to hold his or her breath during the test. The test must be terminated and restarted from the beginning when the test subject fails to hold his or her breath during the test. The test subject then may be refitted and retested.

(2) A record of the test shall be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style and size of respirator used; and date tested.

5. Controlled negative pressure (CNP) REDON quantitative fit testing protocol.

(a) When administering this protocol to test subjects, employers must comply with the requirements specified in paragraphs (a) and (c) of Part I.C.4 of this appendix ("Controlled negative pressure (CNP) quantitative fit testing protocol"), as well as use the test exercises described below in paragraph (b) of this protocol instead of the test exercises specified in paragraph (b) of Part I.C.4 of this appendix.

(b) Employers must ensure that each test subject being fit tested using this protocol follows the exercise and measurement procedures, including the order of administration, described below in Table A-1 of this appendix.

Table A-1. -- CNP REDON Quantitative Fit Testing Protocol

Exercises[1]	Exercise procedure	Measurement procedure
Facing Forward	Stand and breathe normally, without talking, for 30 seconds.	Face forward, while holding breath for 10 seconds.
Bending Over	Bend at the waist, as if going to touch his or her toes, for 30 seconds.	Face parallel to the floor, while holding breath for 10 seconds
Head Shaking	For about three seconds, shake head back and forth vigorously several times while shouting.	Face forward, while holding breath for 10 seconds.
REDON 1	Remove the respirator mask, loosen all facepiece straps, and then redon the respirator mask.	Face forward, while holding breath for 10 seconds.
REDON 2	Remove the respirator mask, loosen all facepiece straps, and then redon the respirator mask again.	Face forward, while holding breath for 10 seconds.

[1] Exercises are listed in the order in which they are to be administered.

(c) After completing the test exercises, the test administrator must question each test subject regarding the comfort of the respirator. When a test subject states that the respirator is unacceptable, the employer must ensure that the test administrator repeats the protocol using another respirator model.

(d) Employers must determine the overall fit factor for each test subject by calculating the harmonic mean of the fit testing exercises as follows:

$$\text{Overall Fit Factor} = \frac{N}{\left[1/FF_1 + 1/FF_2 + \ldots\ 1/FF_N\right]}$$

Where:
N = The number of exercises;
FF1 = The fit factor for the first exercise;
FF2 = The fit factor for the second exercise; and
FFN = The fit factor for the nth exercise.

Part II. New Fit Test Protocols

A. Any person may submit to OSHA an application for approval of a new fit test protocol. If the application meets the following criteria, OSHA will initiate a rulemaking proceeding under section 6(b)(7) of the OSH Act to determine whether to list the new protocol as an approved protocol in this Appendix A.

B. The application must include a detailed description of the proposed new fit test protocol. This application must be supported by either:

1. A test report prepared by an independent government research laboratory (e.g., Lawrence Livermore National Laboratory, Los Alamos National Laboratory, the National Institute for Standards and Technology) stating that the laboratory has tested the protocol and had found it to be accurate and reliable; or

2. An article that has been published in a peer-reviewed industrial hygiene journal describing the protocol and explaining how test data support the protocol's accuracy and reliability.

C. If OSHA determines that additional information is required before the Agency commences a rulemaking proceeding under this section, OSHA will so notify the applicant and afford the applicant the opportunity to submit the supplemental information. Initiation of a rulemaking

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proceeding will be deferred until OSHA has received and evaluated the supplemental information.

[63 FR 20098, April 23, 1998; 69 FR 46993, August 4, 2004]

Next Standard (1910.134 App B-1)

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• **Subpart:**	I
• **Subpart Title:**	Personal Protective Equipment
• **Standard Number:**	1910.134 App B-1
• **Title:**	User Seal Check Procedures (Mandatory).

Appendix B-1 to § 1910.134: User Seal Check Procedures (Mandatory)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks

A. *Positive pressure check.* Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. *Negative pressure check.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

[63 FR 1152, Jan. 8, 1998]

Next Standard (1910.134 App B-2)

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• **Part Number:**	1910
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• **Subpart:**	I
• **Subpart Title:**	Personal Protective Equipment
• **Standard Number:**	1910.134 App B-2
• **Title:**	Respirator Cleaning Procedures (Mandatory).

Appendix B-2 to § 1910.134: Respirator Cleaning Procedures (Mandatory)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B- 2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

I. Procedures for Cleaning Respirators

A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

B. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

C. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.

D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,

2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,

3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

E. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

F. Components should be hand-dried with a clean lint-free cloth or air-dried.

G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

H. Test the respirator to ensure that all components work properly.

[63 FR 1152, Jan. 8, 1998]

Next Standard (1910.134 App C)

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PHYSICIAN'S EVALUATION

NAME:			
SOCIAL SECURITY #:		**DOB:**	
EMPLOYER:		**SUPERVISOR:**	
DATE:	**AGE:**	**HEIGHT:**	**WEIGHT:**

CIRCLE TYPE OR TYPES OF RESPIRATOR(S) TO BE USED:

AIR PURIFYING (NON-POWDERED) NO OTHER RESPIRATOR IS AUTHORIZED BY DNSC-EH

LEVEL OF WORK ACTIVITY (CIRCLE ONE):

LIGHT MODERATE HEAVY STRENUOUS

EXTENT OF USAGE:	**YES**	**NO**
1. DAILY BASIS	_____	_____
2. OCCASIONALLY, MORE THAN ONCE A WEEK	_____	_____
3. RARELY, OR FOR EMERGENCY PURPOSES		

LENGTH OF TIME OF ANTICIPATED USE IN HOURS _____

ENVIRONMENTAL CONDITIONS (CIRCLE ALL THAT APPLY):

HIGH PLACES TEMPERATURE HAZARDOUS MATERIALS

PROTECTIVE CLOTHING OTHER (LIST): _____

PHYSICIAN'S EVALUATION	**YES**	**NO**
1. NO RESTRICTIONS RESPIRATOR USE	_____	_____
2. SOME SPECIFIC RESTRICTIONS	_____	_____
3. NO RESPIRATOR USE	_____	_____

RESTRICTIONS:

EMPLOYEE SIGNATURE **DATE**

EXAMINING PHYSICIAN **DATE**

ENCLOSURE 8

OSHA Respirator Medical Evaluation Questionnaire

Appendix C to Sec. 1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

CAN YOU READ (CIRCLE ONE): YES/NO

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.

PART A. SECTION 1. (MANDATORY) THE FOLLOWING INFORMATION MUST BE PROVIDED BY EVERY EMPLOYEE WHO HAS BEEN SELECTED TO USE ANY TYPE OF RESPIRATOR (PLEASE PRINT).

1. TODAY'S DATE:_____

2. YOUR NAME:_____

3. YOUR AGE (TO NEAREST YEAR):_____

4. SEX (CIRCLE ONE): MALE/FEMALE

5. YOUR HEIGHT: _____ FT. _____ IN.

6. YOUR WEIGHT: _____ LBS.

7. YOUR JOB TITLE:_____

8. A PHONE NUMBER WHERE YOU CAN BE REACHED BY THE HEALTH CARE PROFESSIONAL WHO REVIEWS THIS QUESTIONNAIRE (INCLUDE THE AREA CODE):_____

9. THE BEST TIME TO PHONE YOU AT THIS NUMBER:_____

10. HAS YOUR EMPLOYER TOLD YOU HOW TO CONTACT THE HEALTH CARE PROFESSIONAL WHO WILL REVIEW THIS QUESTIONNAIRE (CIRCLE ONE): YES/NO

11. CHECK THE TYPE OF RESPIRATOR YOU WILL USE (YOU CAN CHECK MORE THAN ONE CATEGORY):
A. _____ N, R, OR P DISPOSABLE RESPIRATOR (FILTER-MASK, NON-CARTRIDGE TYPE ONLY).
B. _____ OTHER TYPE (FOR EXAMPLE, HALF- OR FULL-FACE PIECE TYPE, POWERED-AIR PURIFYING, SUPPLIED-AIR, SELF-CONTAINED BREATHING APPARATUS).

12. HAVE YOU WORN A RESPIRATOR (CIRCLE ONE): YES/NO

IF "YES," WHAT TYPE(S): _____

PART A. SECTION 2. (MANDATORY) QUESTIONS 1 THROUGH 9 BELOW MUST BE ANSWERED BY EVERY EMPLOYEE WHO HAS BEEN SELECTED TO USE ANY TYPE OF RESPIRATOR (PLEASE CIRCLE "YES" OR "NO").

1. DO YOU ***CURRENTLY*** SMOKE TOBACCO, OR HAVE YOU SMOKED TOBACCO IN THE LAST MONTH: YES/NO

2. HAVE YOU ***EVER HAD*** ANY OF THE FOLLOWING CONDITIONS?

a. seizures (fits): yes/no
b. diabetes (sugar disease): yes/no
c. allergic reactions that interfere with your breathing: yes/no
d. claustrophobia (fear of closed-in places): yes/no
e. trouble smelling odors: yes/no

3. HAVE YOU ***EVER HAD*** ANY OF THE FOLLOWING PULMONARY OR LUNG PROBLEMS?

a. asbestosis: yes/no
b. asthma: yes/no
c. chronic bronchitis: yes/no
d. emphysema: yes/no
e. pneumonia: yes/no
f. tuberculosis: yes/no
g. ilicosis: yes/no
h. pneumothorax (collapsed lung): yes/no
i. lung cancer: yes/no
j. broken ribs: yes/no
k. any chest injuries or surgeries: yes/no
l. any other lung problem that you've been told about: yes/no

4. DO YOU ***CURRENTLY*** HAVE ANY OF THE FOLLOWING SYMPTOMS OF PULMONARY OR LUNG ILLNESS?

a. shortness of breath: yes/no
b. shortness of breath when walking fast on level ground or walking up a slight hill or incline: yes/no
c. shortness of breath when walking with other people at an ordinary pace on level ground: yes/no
d. have to stop for breath when walking at your own pace on level ground: yes/no
e. shortness of breath when washing or dressing yourself: yes/no
f. shortness of breath that interferes with your job: yes/no
g. coughing that produces phlegm (thick sputum): yes/no
h. coughing that wakes you early in the morning: yes/no
i. coughing that occurs mostly when you are lying down: yes/no
j. coughing up blood in the last month: yes/no
k. wheezing: yes/no
l. wheezing that interferes with your job: yes/no
m. chest pain when you breathe deeply: yes/no
n. any other symptoms that you think may be related to lung problems: yes/no

5. HAVE YOU ***EVER HAD*** ANY OF THE FOLLOWING CARDIOVASCULAR OR HEART PROBLEMS?

a. heart attack: yes/no
b. stroke: yes/no

c. angina: yes/no
d. heart failure: yes/no
e. swelling in your legs or feet (not caused by walking): yes/no
f. heart arrhythmia (heart beating irregularly): yes/no
g. high blood pressure: yes/no
h. any other heart problem that you've been told about: yes/no

6. HAVE YOU ***EVER HAD*** ANY OF THE FOLLOWING CARDIOVASCULAR OR HEART SYMPTOMS?

a. frequent pain or tightness in your chest: yes/no
b. pain or tightness in your chest during physical activity: yes/no
c. pain or tightness in your chest that interferes with your job: yes/no
d. in the past two years, have you noticed your heart skipping or missing a beat: yes/no
e. heartburn or indigestion that is not related to eating: yes/no
f. any other symptoms that you think may be related to heart or circulation problems: yes/no

7. DO YOU ***CURRENTLY*** TAKE MEDICATION FOR ANY OF THE FOLLOWING PROBLEMS?

a. breathing or lung problems: yes/no
b. heart trouble: yes/no
c. blood pressure: yes/no
d. seizures (fits): yes/no

8. IF YOU'VE USED A RESPIRATOR, HAVE YOU ***EVER HAD*** ANY OF THE FOLLOWING PROBLEMS? (IF YOU'VE NEVER USED A RESPIRATOR, CHECK THE FOLLOWING SPACE AND GO TO QUESTION 9)

a. eye irritation: yes/no
b. skin allergies or rashes: yes/no
c. anxiety: yes/no
d. general weakness or fatigue: yes/no
e. any other problem that interferes with your use of a respirator: yes/no

9. WOULD YOU LIKE TO TALK TO THE HEALTH CARE PROFESSIONAL WHO WILL REVIEW THIS QUESTIONNAIRE ABOUT YOUR ANSWERS TO THIS QUESTIONNAIRE: YES/NO

QUESTIONS 10 TO 15 BELOW MUST BE ANSWERED BY EVERY EMPLOYEE WHO HAS BEEN SELECTED TO USE EITHER A FULL-FACE-PIECE 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.

10. HAVE YOU ***EVER LOST*** VISION IN EITHER EYE (TEMPORARILY OR PERMANENTLY): YES/NO

11. DO YOU ***CURRENTLY*** HAVE ANY OF THE FOLLOWING VISION PROBLEMS?

a. wear contact lenses: yes/no
b. wear glasses: yes/no
c. color blind: yes/no
d. any other eye or vision problem: yes/no

12. HAVE YOU ***EVER HAD*** AN INJURY TO YOUR EARS, INCLUDING A BROKEN EARDRUM: YES/NO

13. DO YOU ***CURRENTLY*** HAVE ANY OF THE FOLLOWING HEARING PROBLEMS?

a. difficulty hearing: yes/no

b. wear a hearing aid: yes/no
c. any other hearing or ear problem: yes/no

14. HAVE YOU ***EVER HAD*** A BACK INJURY: YES/NO

15. DO YOU ***CURRENTLY*** HAVE ANY OF THE FOLLOWING MUSCULOSKELETAL PROBLEMS?

a. weakness in any of your arms, hands, legs, or feet: yes/no
b. back pain: yes/no
c. difficulty fully moving your arms and legs: yes/no
d. pain or stiffness when you lean forward or backward at the waist: yes/no
e. difficulty fully moving your head up or down: yes/no
f. difficulty fully moving your head side to side: yes/no
g. difficulty bending at your knees: yes/no
h. difficulty squatting to the ground: yes/no
i. climbing a flight of stairs or a ladder carrying more than 25 lbs: yes/no
j. any other muscle or skeletal problem that interferes with using a respirator: yes/no

PART B. ANY OF THE FOLLOWING QUESTIONS, AND OTHER QUESTIONS NOT LISTED, MAY BE ADDED TO THE QUESTIONNAIRE AT THE DISCRETION OF THE HEALTH CARE PROFESSIONAL WHO WILL REVIEW THE QUESTIONNAIRE.

1. IN YOUR PRESENT JOB, ARE YOU WORKING AT HIGH ALTITUDES (OVER 5,000 FEET) OR IN A PLACE THAT HAS LOWER THAN NORMAL AMOUNTS OF OXYGEN: YES/NO

IF "YES," DO YOU HAVE FEELINGS OF DIZZINESS, SHORTNESS OF BREATH, POUNDING IN YOUR CHEST, OR OTHER SYMPTOMS WHEN YOU'RE WORKING UNDER THESE CONDITIONS: YES/NO

2. AT WORK OR AT HOME, HAVE YOU EVER BEEN EXPOSED TO HAZARDOUS SOLVENTS, HAZARDOUS AIRBORNE CHEMICALS (E.G., GASES, FUMES, OR DUST), OR HAVE YOU COME INTO SKIN CONTACT WITH HAZARDOUS CHEMICALS: YES/NO

IF "YES," NAME THE CHEMICALS IF YOU KNOW THEM:_____

_____

3. HAVE YOU EVER WORKED WITH ANY OF THE MATERIALS, OR UNDER ANY OF THE CONDITIONS, LISTED BELOW:

a. asbestos: yes/no
b. silica (***e.g.***, in sandblasting): yes/no
c. tungsten/cobalt (e.g., grinding or welding this material): yes/no
d. beryllium: yes/no
e. aluminum: yes/no
f. coal (for example, mining): yes/no
g. iron: yes/no
h. tin: yes/no
i. dusty environments: yes/no
j. any other hazardous exposures: yes/no

IF "YES," DESCRIBE THESE EXPOSURES: _____

_____

_____

4. LIST ANY SECOND JOBS OR SIDE BUSINESSES YOU HAVE: _____
_____
_____

5. LIST YOUR PREVIOUS OCCUPATIONS: _____
_____

6. LIST YOUR CURRENT AND PREVIOUS HOBBIES:_____
_____
_____

7. HAVE YOU BEEN IN THE MILITARY SERVICES? YES/NO

IF "YES," WERE YOU EXPOSED TO BIOLOGICAL OR CHEMICAL AGENTS (EITHER IN TRAINING OR COMBAT): YES/NO

8. HAVE YOU EVER WORKED ON A HAZMAT TEAM? YES/NO

9. OTHER THAN MEDICATIONS FOR BREATHING AND LUNG PROBLEMS, HEART TROUBLE, BLOOD PRESSURE, AND SEIZURES MENTIONED EARLIER IN THIS QUESTIONNAIRE, ARE YOU TAKING ANY OTHER MEDICATIONS FOR ANY REASON (INCLUDING OVER-THE-COUNTER MEDICATIONS): YES/NO

IF "YES," NAME THE MEDICATIONS IF YOU KNOW THEM:_____

10. WILL YOU BE USING ANY OF THE FOLLOWING ITEMS WITH YOUR RESPIRATOR(S)?

a. hepa filters: yes/no
b. canisters (for example, gas masks): yes/no
c. cartridges: yes/no

11. HOW OFTEN ARE YOU EXPECTED TO USE THE RESPIRATOR(S) (CIRCLE "YES" OR "NO" FOR ALL ANSWERS THAT APPLY TO YOU)?

a. escape only (no rescue): yes/no
b. emergency rescue only: yes/no
c. less than 5 hours ***per week:*** yes/no
d. less than 2 hours ***per day:*** yes/no
e. 2 to 4 hours per day: yes/no
f. over 4 hours per day: yes/no

12. DURING THE PERIOD YOU ARE USING THE RESPIRATOR(S), IS YOUR 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 A LIGHT WORK EFFORT ARE ***SITTING*** WHILE WRITING, TYPING, DRAFTING, OR PERFORMING LIGHT ASSEMBLY WORK; OR ***STANDING*** WHILE OPERATING A DRILL PRESS (1-3 LBS.) OR 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 ARE ***SITTING*** WHILE NAILING OR FILING; ***DRIVING*** A TRUCK OR BUS IN URBAN TRAFFIC; ***STANDING*** WHILE DRILLING, NAILING, PERFORMING ASSEMBLY WORK, OR TRANSFERRING A MODERATE LOAD (ABOUT 35 LBS.) 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 LBS.) ON A LEVEL SURFACE.

3. ***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 ARE ***LIFTING*** A HEAVY LOAD (ABOUT 50 LBS.) 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 LBS.).

13. WILL YOU BE WEARING PROTECTIVE CLOTHING AND/OR EQUIPMENT (OTHER THAN THE RESPIRATOR) WHEN YOU'RE USING YOUR RESPIRATOR: YES/NO

IF "YES," DESCRIBE THIS PROTECTIVE CLOTHING AND/OR EQUIPMENT:_____

_____

14. WILL YOU BE WORKING UNDER HOT CONDITIONS (TEMPERATURE EXCEEDING 77 DEG. F): YES/NO

15. WILL YOU BE WORKING UNDER HUMID CONDITIONS: YES/NO

16. DESCRIBE THE WORK YOU'LL BE DOING WHILE YOU'RE USING YOUR RESPIRATOR(S):

_____

_____

17. DESCRIBE ANY SPECIAL OR HAZARDOUS CONDITIONS YOU MIGHT ENCOUNTER WHEN YOU'RE USING YOUR RESPIRATOR(S) (FOR EXAMPLE, CONFINED SPACES, LIFE-THREATENING GASES):

_____

_____

18. PROVIDE THE FOLLOWING INFORMATION, IF YOU KNOW IT, FOR EACH TOXIC SUBSTANCE THAT YOU'LL BE EXPOSED TO WHEN YOU'RE USING YOUR RESPIRATOR(S):

NAME OF THE FIRST TOXIC SUBSTANCE:_____
ESTIMATED MAXIMUM EXPOSURE LEVEL PER SHIFT:_____
DURATION OF EXPOSURE PER SHIFT:_____
NAME OF THE SECOND TOXIC SUBSTANCE:_____

ESTIMATED MAXIMUM EXPOSURE LEVEL PER SHIFT:_____
DURATION OF EXPOSURE PER SHIFT:_____
NAME OF THE THIRD TOXIC SUBSTANCE:_____
ESTIMATED MAXIMUM EXPOSURE LEVEL PER SHIFT:_____
DURATION OF EXPOSURE PER SHIFT:_____

THE NAME OF ANY OTHER TOXIC SUBSTANCES THAT YOU'LL BE EXPOSED TO WHILE USING YOUR RESPIRATOR:

_____

_____

19. DESCRIBE ANY SPECIAL RESPONSIBILITIES YOU'LL HAVE WHILE USING YOUR RESPIRATOR(S) THAT MAY AFFECT THE SAFETY AND WELL-BEING OF OTHERS (FOR EXAMPLE, RESCUE, SECURITY):

_____

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Respiratory Audit Checklist

DEPOT:		**MANAGER:**	**DATE:**

AUDIT PERFORMED BY:

	Y	N	NA	COMMENTS
A. RESPIRATOR PROGRAM				
1. PRINTED COPY OF RESPIRATORY PROTECTION PROGRAM AVAILABLE TO EMPLOYEES?				
B. SELECTION OF RESPIRATORS				
1. HAS AN EXPOSURE ASSESSMENT AND/OR AIR SAMPLING BEEN CONDUCTED PRIOR TO ISSUING AN EMPLOYEE A RESPIRATOR				
2. HAS THE NIOSH SELECTION GUIDE BEEN USED TO DETERMINE THE PROPER RESPIRATOR AFTER THE EXPOSURE ASSESSMENT HAS BEEN COMPLETED?				
3. ARE RESPIRATORS (INCLUDES DUST MASKS) NIOSH CERTIFIED?				
4. HAS A CARTRIDGE/CANISTER CHANGE-OUT SCHEDULE BEEN DEVELOPED FOR AIR-PURIFYING RESPIRATORS?				
C. MEDICAL EVALUATION				
1. ARE EMPLOYEES COMPLETING THE MEDICAL QUESTIONNAIRE ON AN ANNUAL BASIS AND PRIOR TO FIT TESTING?				
2. DOES THE DEPOT HAVE A COPY OF THE RECOMMENDATION FROM OCCUPATIONAL HEALTH PHYSICIAN CONCERNING THE EMPLOYEE'S ABILITY TO USE A RESPIRATOR?				
3 DO EMPLOYEES KNOW WHAT SIGNS AND SYMPTOMS SHOULD BE REPORTED THAT MAY AFFECT THEIR ABILITY TO WEAR A RESPIRATOR ?				

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D. FIT TESTING				
1. ARE EMPLOYEES FIT TESTED ON AN ANNUAL BASIS?				
2. ARE EMPLOYEES ISSUED THE RESPIRATOR THAT THEY PASSED THE FIT TEST IN (MAKE AND MODEL)?				
3. DO YOU HAVE A COPY OF THE FIT TEST RECORD FOR EACH EMPLOYEE WEARING A RESPIRATOR?				
E. USE OF RESPIRATORS				
1. ARE EMPLOYEES WHO USE TIGHT FITTING RESPIRATORS CLEAN SHAVEN WHEN WEARING THEIR RESPIRATOR?				
2. ARE EMPLOYEES PERFORMING A POSITIVE AND NEGATIVE PRESSURE SEAL WHEN THE RESPIRATOR IS DONNED?				
3. ARE EMPLOYEES WASHING THEIR FACE WHEN REMOVING THE RESPIRATOR?				
4. HAVE EMPLOYEES BEEN INSTRUCTED TO LEAVE THE WORKING AREA IF THEY DETECT A LEAK IN THE RESPIRATOR?				
F. MAINTENANCE AND CARE OF RESPIRATORS				
1. ARE EMPLOYEES INSPECTING THE RESPIRATOR BEFORE AND AFTER EACH USE?				
2. ARE EMPLOYEES CLEANING AND DISINFECTING THE RESPIRATOR AFTER USE?				
3. ARE RESPIRATORS STORED AWAY FROM SUNLIGHT, DUST, EXTREME TEMPERATURES, EXCESSIVE MOISTURE, AND/OR DAMAGING CHEMICALS?				
G. IDENTIFICATION OF FILTERS, CARTRIDGES, AND CANISTERS				
1. ARE FILTERING FACE-PIECE RESPIRATORS NIOSH APPROVED AND EITHER P, N, OR R?				
2. ARE CARTRIDGES AND CANISTERS NIOSH APPROVED?				

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3. ARE EMPLOYEES EDUCATED ON THE COLOR-CODING OF CARTRIDGES AND CANISTERS?				
H. TRAINING				
1. DO EMPLOYEES RECEIVE RESPIRATOR TRAINING AT LEAST ANNUALLY?				
2. ARE TRAINING RECORDS MAINTAINED FOR THREE (3) YEARS?				

ENCLOSURE 10

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• **Part Title:**	Occupational Safety and Health Standards
• **Subpart:**	I
• **Subpart Title:**	Personal Protective Equipment
• **Standard Number:**	1910.134 App D
• **Title:**	(Mandatory) Information for Employees Using Respirators When not Required Under Standard.

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

Next Standard (1910.135)

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