Environmental Health & Safety

Respiratory Protection Program

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DISTRIBUTION:

Copies of all revisions, modifications, addenda, etc., must be forwarded to the following departments:

- **Employee Health Office**
- **Affected departments listed in Reference 1**
- **Posted on Yale EHS Web Site (ehs.yale.edu)**

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Yale University Respiratory Protection Program

1. Introduction

This document establishes Yale University's written compliance program for respiratory protection, as required by the Occupational Safety and Health Administration (OSHA) under Title 29 Code of Federal Regulations Part 1910.134 (See Appendix A for a copy of the Standard). This Respiratory Protection Program addresses the use of respiratory protection as a method to protect Yale University employees from exposures to airborne biological, chemical, and physical agents to safe levels below exposure limits, as well as from oxygen deficient atmospheres (i.e.<19.5% O_2). Whenever feasible, engineering controls and work practice controls will first be used to maintain worker exposures below exposure limits and at a safe level. It is understood that respiratory protection shall only be required if these controls are not feasible or are not able to reduce exposures adequately.

The Occupational Health and Safety Section in the Yale Environmental Health & Safety (EHS) office administers the Respiratory Protection Program.

2. Responsibilities

Various Yale University departments and employees have responsibilities under this program, including:

a. Environmental Health & Safety - Respirator Program Administrator

- Preparing, reviewing, and periodically revising this program.
- Providing and/or overseeing respirator fit-testing and training, including training other designated employees outside EHS to perform the respirator training and fit-testing.
- Monitoring and evaluating respirable hazards in the workplace.
- Providing guidance to supervisors in the selection and purchase of approved respirators.
- Maintaining records of exposure assessments, training, and respirator fit testing.
- Coordinating recordkeeping and notifications with the Employee Health Office.

b. Employee Health Office

- Developing and implementing a medical surveillance program for approved respirator users.
- Maintaining medical surveillance records.

c. Supervisors

- Providing new employees with informal on-the-job training about potential respirable hazards, personal protective equipment requirements, and this Program.
- Notifying Yale Environmental Health & Safety and the Employee Health Office about workplace conditions and potentially affected employees.
- Making information and training materials available to potentially affected employees.
- Ensuring that affected employees receive medical surveillance.
- Ensuring that affected employees receive respirator training and fit-testing prior to working with the respirator, and annually thereafter.
- Supplying approved respirators to affected employees free-of-charge.
- Requiring affected employees to wear respirators.

d. Affected Employees

- Observing the procedures and requirements outlined in this Program.
- Attending training sessions and obtaining medical surveillance.
- Wearing approved respirators as required.
- Notifying supervisors of changes in the workplace that could change exposures.

3. Exposure Assessments
Potential exposures to hazardous materials and conditions at Yale University are routinely evaluated through regular workplace inspections and upon employee or supervisor request. Environmental Health & Safety takes all practical efforts to ensure that engineering or other controls are available and implemented to eliminate the need for respiratory protection. Nevertheless, certain situations and operations continue to require the use of respirators where exposures cannot be otherwise managed below the applicable permissible exposure limit. Also, respirators may be required or desired because of the odor or irritation associated with chemical exposures, even though they may be well below all applicable exposure limits.

In the absence of a regulatory exposure limit, commonly accepted guidelines (i.e., TLVs, RELs, WEELs, or manufacturers' suggested exposure limits) will be used to evaluate the exposure hazard from a particular operation or environment. Airborne concentrations of hazardous agents may be predicted on the basis of past experience, mathematical calculations, published results for similar work, or actual air sampling. Predicted airborne concentrations will be extended to all members of the same job title or function unless specific information indicates that exposures vary substantially, in which case more cross-sectional data will be obtained. Where air sampling is needed, measurements will be made with calibrated equipment operated by trained safety and health personnel from, or under the direction of, Yale Environmental Health & Safety. Monitoring will be repeated when changes occur which could render respiratory protection equipment inadequate or changes in job tasks will require new employees to be included in this Program.

4. Respirator Selection
Respirators are selected on the basis of workplace hazard assessments, as well as guidance from 29CFR1910.134, the American National Standard *Practices for Respiratory Protection Z88.2-2015,* the NIOSH Guide to Industrial Respiratory Protection, and the latest version of the National Institute for Occupational Safety and Health's *Pocket Guide to Chemical Hazards.* Final selection of any respiratory protective device must be made in consultation with senior staff from Environmental Health & Safety. Only respirators with approval from the National Institute of Occupational Safety and Health (NIOSH) may be used.

Respirators are selected on the basis of the anticipated health hazard(s), considering the following factors:

- Chemical, physical, or biological agent(s) present in the work environment;
- Physical state of contaminants (i.e., gas, vapor, dust, aerosol);
- Permissible exposure limit (PEL) and immediately dangerous to life and health (IDLH) levels for the agent. In the absence of a PEL, other suitable exposure guidelines (i.e., ACGIH Threshold Limit Value) or known toxicity of the agent will be considered;
- Anticipated airborne concentration of agent(s) based upon either past experience, mathematical predictions, published results from similar operations, or actual air sampling. If the concentration cannot be predicted or the contaminant(s) unknown, respiratory protection must be upgraded to self-contained breathing apparatus;
- Assigned protection factor (NIOSH) for the respirator type;
- Potential for skin absorption or severe eye irritation;
- Potential for oxygen deficiency;
- Nature and duration of the activity requiring respiratory protection.

Only respirators that can provide protection in excess of the anticipated airborne concentration will be selected (i.e., the assigned protection factor *times* the permissible exposure limit must *exceed* the anticipated airborne concentration). The respirator selection worksheet (Appendix B) can be used as a decision guideline for ensuring the adequacy of selected equipment.

At Yale University, negative pressure air purifying respirators (APR) and powered air purifying respirators

(PAPR) are typically sufficient for routine work operations requiring respiratory protection. Cartridge selection is made in accordance with the filtration capabilities; the appropriate cartridge or filter can be verified by the Respirator Program Administrator. Cartridges for gases and vapors must either have an end-of-service-life indicator (ESLI), or must be changed in accordance with the cartridge change schedule described in Appendix C. Positive pressure-demand self-contained breathing apparatus (SCBA) is used for emergency response, unknown or oxygen deficient atmospheres, when there is no appropriate filtering cartridge available, or in other high hazard situations. A list of approved respirators and their typical uses appears in Appendix D.

5. Restrictions

Respirators requiring a tight face seal for proper performance may not be worn if certain physical or health conditions prevent obtaining the tight seal. These may include: eyeglasses (with tight fitting full facepiece respirators); missing denture(s); facial hair or facial jewelry that interferes with the seal; punctured eardrum; articles of clothing that affect fit; other physical, health, or prosthetic conditions that interrupt or preclude an effective respirator fit test. Each of these conditions may be remedied as follows:

- Eyeglass Temple Pieces – Where a full-face negative pressure respirator must be worn, a spectacle kit that fit the respirator must be provided to the employee free-of-charge. The employee will then need to visit an optometrist during regular working hours to arrange for the lens to be fabricated to the required prescription. Although the practice is strongly discouraged, contact lenses may be worn provided the respirator is of full-face design.
- Missing Denture(s) – Will be addressed by the Employee Health Office and the reason for the missing dentures identified.
- Facial Hair or Facial Jewelry Impeding Effective Seal – Where an employee is required to wear a tight-fitting negative-pressure respirator, and facial hair or facial jewelry impedes an effective facial seal, the hair or jewelry must be removed before that respirator can be worn.
- Clothing – Clothing, jewelry, or other personal items worn that prevent making an effective facial seal must be removed so that the respirator can be properly worn.
- Other Issues – Other issues (e.g., prosthetics, handicaps, facial malformations) that could prevent the effective use of a respirator will be addressed on a case-by-case basis with the Employee Health Office during the medical screening.

6. Equipment Acceptance Criteria

Respiratory protection devices, including cartridges for air purifying respirators, must be approved by the National Institute for Occupational Safety and Health (NIOSH), and Grade D or better compressed air[1] used in all air supplying systems. The Yale Office of Fire Code Compliance refills the SCBA tanks through the New Haven Fire Department, and a certificate of analysis (CofA) verifying Grade D breathing air is available from them.

7. Fit Testing

Employees who are required to use a tight-fitting respiratory facepiece for protection against all contaminants must be fit-tested during initial equipment issuance, whenever a different respirator is used (change in type or make/model) and annually thereafter. In addition to the fit testing, the employee should conduct a respirator seal check prior to each use. User seal check procedures as mandated by OSHA are outlined in Appendix E. Qualitative fit testing is performed by Environmental Health & Safety using irritant smoke, saccharin, bitrex, or isoamyl acetate ("banana oil"). Quantitative fit-testing is performed as necessary using the TSI Portacount. This fit testing is performed following the procedures mandated by OSHA in Appendix A of 29CFR1910.134. Fit testing is repeated annually and must also be repeated if the user's health/physical characteristics significantly change (e.g., weight gain/loss, surgery, accident, change or loss of dentures). Qualitative fit-testing verifies an assigned protection factor (APF) of 10 for the disposable N95 and N100 respirators. Qualitative fit-testing also verifies an APF of 10 for ½ mask and full face respirators. If an APF greater than 10

[1] Compressed Gas Association Commodity Specification G-7.1-1989

is desired, quantitative fit-testing will be conducted for full face air purifying respirators, for an APF up to 50. Users of the full face masks for the SCBAs used at Yale University are fit tested annually using the quantitative fit test procedure. Records of fit testing are maintained by Environmental Health & Safety. See Appendix F for fit-testing procedures and record sheet.

8. Training

Employees and supervisors required to wear respirators during employment at the University receive initial and annual training in the proper use, care, and limitations of the selected respirator; details of this program; and on OSHA's requirements under 1910.134. At a minimum, the following items will be covered during the training session:

- The nature of the respiratory hazard (i.e., what specific chemical substances or microbiological species are present; what areas, operations, or conditions involve potentially hazardous exposures; and what effects (symptoms) may result, if respirators are not used).
- An explanation of why engineering controls are not immediately possible and a discussion of what efforts are being made to eliminate or minimize the need for respirators.
- An explanation of why the respirator type selected is the proper one and what factors affect selection.
- A discussion and demonstration on how to use the respirator; i.e., how to inspect, put on and remove, check the seals, etc.
- Instruction on the proper techniques and importance of cleaning, disinfection, inspection, maintenance, and storage of the respirator.
- A discussion of the capabilities and limitations of respirators (i.e., in what environments or under what circumstances (such as oxygen deficiency) the respirator does not offer adequate protection) and any warning signs (odor, etc.) that may indicate the respirator is not functioning properly.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements of OSHA's respirator standard.

See Appendix G for an outline of the respirator training program.

9. Voluntary Use

Under some circumstances, employees may wish to use respiratory protection equipment for their own comfort or sense of well-being, even when there is no recognized hazard or overexposure. Respirator use in these circumstances would be considered "voluntary" and many elements of OSHA's respiratory protection standard would not apply.

Those employees who wear filtering facepieces (N95, N100) on a voluntary basis are provided with the required information (from 29CRF1910.134, Appendix D). See Appendix H for a copy of the required information given to these voluntary respirator wearers. They do not require fit testing or medical clearance. Employees who wear other types of respirators on a voluntary basis (1/2 face APR, FF APR, PAPR) are trained and fit tested (if applicable) in accordance with the respirator standard and may also attend respiratory protection training annually. They are also required to complete the medical clearance questionnaire and be medically cleared to wear a respirator.

10. Equipment Inspection

Employees must inspect their respirator before and after each use, including face seals and shield (full face units), cartridge receptacles, straps, and inhalation and exhalation diaphragms. Components made of rubber, silicone, or another elastomer must be inspected for pliability and any signs of deterioration. If any parts are damaged, the unit must be immediately taken out of service and the area supervisor notified so that a suitable replacement or repair can be made. Respirators for emergency use and all self-contained breathing apparatus must also be inspected on a monthly basis (Appendix I). The most current inspection record is kept with the

equipment. A record of the monthly inspection of the SCBAs and PAPRs available for emergency use by EHS is kept in the EHS office.

11. Equipment Use

When donning a respirator, hair must be pulled back and away from the seal area, and negative and/or positive pressure seal checks conducted to evaluate the facial fit and unit integrity. If an air-tight seal cannot be made by adjusting the tightening straps, then the respirator must be inspected for damage and either repaired or replaced.

When using a respirator, employees must immediately stop work and leave the area if they:

- Detect vapor or gas breakthrough, changes in breathing resistance, or leakage or the facepiece,
- Develop any signs or symptoms of over-exposure,
- Are alerted to end-of-service life indicator or low air alarm (for SCBA),
- Are alerted to a low battery condition (PAPR),
- Need to wash their face and respirator facepiece as necessary to prevent eye or skin irritation associated with respirator use, or
- Need to replace the respirator or the filter, cartridge, or canister elements.

In the event that a possible exposure many have occurred during respirator use, notify the area supervisor, Environmental Health & Safety, and/or the Employee Health Office for assistance and possible medical follow-up. Remove the respirator from service and inspect it for damage or other problems. If the cause cannot be identified and corrected, contact Environmental Health & Safety for guidance.

12. Additional Requirements for Use of Self-Contained Breathing Apparatus (SCBA)

To prevent tampering or inadvertent damage, SCBAs must be stored in clearly identified emergency equipment areas (or bags) under the direct control of the users. Compressed air cylinders must be kept fully charged and the equipment inspected on a monthly basis. The inspection includes checking tank pressure, assuring that components are present and in working condition, and evaluating proper function of regulators and warning devices. In areas where a user could, upon respirator failure, be overcome by toxic materials or an oxygen-deficient atmosphere, at least one partner and two additional support or back-up persons must be present. Support personnel will be equipped with SCBAs and other emergency response equipment of equal or greater protection than that worn by the initial entrants. Prior to initial entry into such a work area, Environmental Health & Safety will conduct a pre-entry briefing to discuss the area, its potential hazards, and the actions to be taken in the event of an accident or emergency. Depending upon the work area, additional rescue equipment may be needed (e.g., safety harness and retrieval lines). Confined space entry is prohibited unless the requirements for Yale University's Confined Space Entry Program have been met.

13. Equipment Maintenance and Storage

Respirators should be cleaned with detergent and water after each use, and then air dried before storing. See Appendix J for respirator cleaning procedures. Shared respirators must be disinfected with either isopropanol or an elastomer-safe disinfectant such as benzalkonium chloride pads. Store respirators in sealable plastic bags away from sources of potential contamination, and never stack them under heavy items that could deform the elastomer facepiece.

In general, air purifying cartridges and canisters should be removed from the respirator after use and discarded. However, when used for only a short duration against relatively low concentrations of contaminants, cartridges may be sealed in an impermeable plastic bag and reused at a later date. See cartridge change schedule in Appendix C. Cartridges can be reused until an end-of-service life indicator activates, the time period indicated in the cartridge change schedule has elapsed, breakthrough has occurred (i.e., odor detected), or resistance to breathing is detected, whichever comes first. When storing cartridges for reuse, a written record showing the date, contaminant(s), and duration of use must be kept with the cartridges. Discard N-95 and other disposable respirators and dust masks at the end of your shift, or after use.

Repairs to respirators may only be made by the manufacturer, authorized equipment service contractor, or by University staff trained in such repair. No adjustments or modifications can be made beyond the manufacturer's recommendations. SCBA air cylinders must be regularly tested[2] and maintained by a manufacturer-approved service contractor. Routine cylinder air refilling is typically performed by the New Haven Fire Department.

The entire respirator, including all parts, must be NIOSH or MSHA approved. The approval is for the entire unit, and any mixing of brands (i.e. North cartridges on an MSA respirator, or inhalation valves for a 3M respirator on a Honeywell respirator) voids the approval and is prohibited.

14. Medical Surveillance

The following medical services are available to affected employees free-of-charge, at reasonable times and places during the employees' normal work hours, by or under the supervision of a physician or licensed health-care professional (PLHCP), and where applicable, according to recommendations made by OSHA. The Employee Health Office manages this surveillance work.

a. *Medical evaluations* are performed on all employees wearing respirators at Yale University prior to respiratory use (excluding voluntary use of filtering facepieces, where medical surveillance is recommended but not required). The PLHCP performs the initial evaluation using a medical questionnaire. (See Appendix K for the medical questionnaire required by 29 CFR 1910.134(e) for respirator medical surveillance.) A follow-up medical examination is provided for an employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A or whose initial medical examination demonstrates the need for a follow-up medical examination. This questionnaire is available from the Employee Health Office and is on the EHS web site at https://ehs.yale.edu/

b. Confidential post-exposure medical evaluation and follow-up is made after documented or suspected over-exposures. Employees must notify their supervisors of such incidents and assist Environmental Health & Safety in documenting all relevant conditions of the incident. This information will then be provided to the Employee Health Office to arrange for any required medical follow-up.

c. A written opinion from the healthcare professional will be obtained by the Employee Health Office after the initial medical qualification examination as well as after any over-exposure incidents. Copies of this information will be provided to the affected employee.

15. Respirator Program Evaluation

Workplace evaluations will be conducted during normal area walkthroughs and during respirator training classes. The Respirator Program Administrator will continually evaluate the work areas to ensure that this program is being properly implemented and that it continues to be effective. This evaluation will include maintaining an up-to-date list of departments and job titles that require or use respiratory protection (Reference 1). Affected employees shall be regularly consulted about the effectiveness of the respirator program during walkthroughs and during annual respirator training. This Respiratory Protection Program shall be reviewed annually.

[2] US DOT Shipping Container Specification Regulations (49 CFR Part 173 and Part 178).

Addendum:
Additional information regarding the use of respirators during the SARS-CoV-2 (COVID) pandemic

To prevent the transmission of the SARS-CoV-2 virus, respiratory protection may be required to be worn by University staff in the following situations:

Staff	Task(s)	Type of Respirator Worn
Health Care Workers	• Performing evaluations or tests within 6' of an unmasked patient • Performing/present during aerosol generating procedures • Entering an airborne isolation room/area	N95 or PAPR
Custodial Services	Cleaning and/or disinfecting rooms which are/had been occupied (within the previous 72 hours) by a COVID-positive person	N95 or PAPR
Facilities Operations (Trades)	Entering rooms or areas which are/had been occupied (within the previous 72 hours) by a COVID-positive person	N95 or PAPR
Hospitality	Entering rooms or areas which are/had been occupied (within the previous 72 hours) by a COVID-positive person	N95 or PAPR
Yale Researchers	Propagating SARS-CoV-2, or high-risk specimens such as unfixed lung samples in lab and animal experiments.	N95 or PAPR
Emergency Responders (EHS, FCC)	Entering an area which is/had been occupied (within the previous 72 hours) by a COVID-positive person	N95 or PAPR

In the event that re-use of N95s becomes necessary during the pandemic, the University will allow the same worker to reuse the respirator, as long as the respirator maintains its structural and functional integrity and the filter material is not physically damaged, soiled, or contaminated (e.g., with blood, body fluids, make-up etc). The following information will be provided during training to staff who may re-use their respirators:

- Procedures to verify the integrity of the respirator before re-use (i.e., straps are not stretched, filter is not damaged) and instructions to dispose of it if it is compromised.
- Procedures for a user seal check, which they should perform each time they don the respirator, and instructions to discard the respirator if they cannot obtain a good fit.
- The appropriate sequence for donning/doffing to prevent contamination.

Additionally, respirator use can provide an additional level of comfort and protection for workers even in circumstances that do not require a respirator to be used. OSHA's COVID-19 Emergency Temporary Standard (ETS) requires training for all employees who may wear a filtering facepiece respirator (e.g., N95) in circumstances where they are being worn for enhanced protection against COVID-19, in situations where only facemasks would be required by OSHA. Information on the COVID-19 ETS can be found in Appendix L.

Appendices:

Appendices:
A. OSHA's Respiratory Protection Standard (29 CFR Part 1910.134)
B. Respirator Selection Worksheet
C. Cartridge Change Schedule
D. Approved Respirator List and Typical Uses
E. User Seal Check
F. Respirator Fit Testing Exercises and Record Sheet
G. Respirator Training Program Outline
H. Voluntary Use of Dust Masks - Required Information
I. SCBA Inspection Record Sheet
J. Respirator Cleaning Procedures
K. Medical Qualification Questionnaire

Appendix A: OSHA's Respiratory Protection Standard (29 CFT Part 1910.134)

OSHA's Respiratory Protection Standard
(29 CFR Part 1910.134)

http://www.osha.gov/

Appendix B: Respirator Selection Worksheet

Respirator Selection Worksheet

Job Title/Employee(s) Affected:

Operation/Environment:

Airborne Contaminant(s):

Source of Contaminant(s):

Other Hazard(s) Present:

Control(s):

Anticipated Airborne Contaminant Level (AACL):

Basis: Exposure Monitoring
Calculations: (attach or show on reverse)
Other:

Acceptable Respirator Option(s):

Respirator Type	Required Conditions of Use			PEL (lowest)	APF	PEL x APF
SCBA	O_2 deficiency (<19.5% O_2)	AACL > IDLH	Emergency, unknown, or non-quantifiable AACL			
PAPR						
Full face APR						
Half face APR						
Disposable nuisance dust mask						
Other						

Is PEL x APF > AACL?
If Yes, respirator meets basic selection criteria

Appendix C: Respirator Cartridge Change Schedule

RESPIRATOR CARTRIDGE CHANGE SCHEDULE

All air-purifying respirators used for protection against gases and vapors must have an end-of-service-life indicator (ESLI) or have a cartridge change schedule that is based on objective information or data to ensure that canisters or cartridges are changed before the end of their service life. The following change schedule is determined based on OSHA standards, manufacturer's recommendations, and the ACGIH "rule of thumb".

CONTAMINANT	CHANGE SCHEDULE
Acrylonitrile	End of shift
Ammonia	Maximum 8 hours use total (up to 125 ppm)
Benzene	Beginning of shift
Butadiene	every 1, 2, or 4 hours dependent on concentration (according to 29CFR1910.1051 Table 1) , and at beginning of each shift
Formaldehyde	3 hours or end of shift (whichever comes first)
HCl, SO_2, Chlorine	Maximum one shift
Methylene Chloride	No approved cartridges or canisters - must use supplied air
Nitric Acid	No approved cartridges or canisters - must use supplied air
Organic Vapors	Maximum 8 hours use total (up to 200 ppm)
Vinyl chloride	End of shift
All Cartridges for Emergency Use	Discard after use
HEPA filters	Restricted breathing or visibly dirty, wet, or compromised
Filtering dust masks	Visibly dirty/contaminated

Appendix D: Approved Respirator List and Typical Uses

Approved Respirator List and Typical Uses

Respirators Approved for University Work

Type	Style	Intended Use(s)[1]	Respirator Description
Air Purifying	½ Face, Disposable (2-strap, NIOSH approved)	Nuisance particulates where concentration is anticipated to be below any applicable action limits	Disposable nuisance dust/particulate mask, NIOSH approved (N,R,P) 95
	½ Face, Disposable (2-strap, NIOSH approved)	Animal dander, chemical particulates, or unidentified suspicious material where particulate respiratory protective is desired	NIOSH approved (N,R,P) 95, 99, and 100, filtering facepieces
	½ Face, Disposable (2-strap, NIOSH approved)	Potential exposure to tuberculosis, SARS-CoV-2 or other infectious aerosols in clinical/healthcare, research or other work settings	NIOSH approved (N,R,P) 95, 99, and 100, filtering facepieces
	½ Mask, Reusable	Asbestos, other toxic dusts/aerosols/mists/fumes, organic vapors, acid gases/mists, etc.	NIOSH/MSHA approved, form-fitting polymer facepiece mask with appropriate filters and/or cartridges
	Full-Face Reusable	Asbestos, other toxic dusts/aerosols/mists/fumes, organic vapors, formaldehyde, acid gases/mists, etc., lachrymators	NIOSH/MSHA approved, form-fitting polymer facepiece mask with appropriate filters and/or cartridges or large capacity single canister
	Powered air purifying respirator (PAPR)	Asbestos, other toxic dusts/aerosols/mists/fumes, organic vapors, acid gases/mists, etc.	NIOSH/MSHA approved, positive pressure, with battery, minimum 6cfm, with appropriate filters and/or cartridges
	Powered air purifying respirator (PAPR)	Potential exposure to tuberculosis, SARS-CoV-2 or other infectious aerosols in clinical/healthcare settings	NIOSH/MSHA approved, positive pressure, with battery, minimum 6cfm, with HEPA filters
Air Supplying	Self-contained breathing apparatus (SCBA)	Emergency conditions with unknowns, high concentrations of toxic materials, potential oxygen-deficient environments, back-up rescue/assistance teams. Normal operations when respiratory protection is required/desired and no approved air purifying cartridge/filter available.	Positive pressure-demand self-contained breathing apparatus with minimum 30 min. air supply cylinder, low air alarm.

[1] Respirators may not be used in an environment that is anticipated to exceed its maximum use concentration

RESPIRATOR USER SEAL CHECK

Persons using tight-fitting respirators must 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 must 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.

Appendix F: Qualitative Respirator Fit Testing Exercised and Record Sheet

QUALITATIVE RESPIRATOR FIT TESTING EXERCISES AND RECORD SHEET

Respirator Fit Test Exercises

The test subject shall perform exercises, in the 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.

(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).

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. If the wearer smells the test odor, tastes the flavoring, or experiences irritation, the fit is faulty and another size or style mask must be obtained, or the unit adjusted until a fit is obtained.

Yale *Environmental Health & Safety*

135 College Street, Suite 100
New Haven, CT 06510
email form to: safetytraining@yale.edu

Course: Respiratory Protection Training Code: PH620

Date: _____ Time: _____

Instructor: _____ Location: _____

Last Name: _____ First Name: _____

Net ID: _____ Signature: _____

Intended Use of Respirator: _____ Department: _____

Job Title: _____ Supervisor: _____

For Instructor Use Only

Make/Model: _____ Size: _____

Fit Test Method:
- ☐ Qualitative
  - ○ Saccharin
  - ○ Bitrex
- ☐ Quantitative

Type:
- ☐ N95 ☐ 1/2 Face
- ☐ N100 ☐ Full Face
- ☐ PAPR (No fit test required with loose-fitting PAPR)

Last Name: _____ First Name: _____

Net ID: _____ Signature: _____

Intended Use of Respirator: _____ Department: _____

Job Title: _____ Supervisor: _____

For Instructor Use Only

Make/Model Size: _____

Fit Test Method:
- ☐ Qualitative
  - ○ Saccharin
  - ○ Bitrex
- ☐ Quantitative

Type:
- ☐ N95 ☐ 1/2 Face
- ☐ N100 ☐ Full Face
- ☐ PAPR (No fit test required with loose-fitting PAPR)

Last Name: _____ First Name: _____

Net ID: _____ Signature: _____

Intended Use of Respirator: _____ Department: _____

Job Title: _____ Supervisor: _____

For Instructor Use Only

Make/Model Size: _____

Fit Test Method:
- ☐ Qualitative
  - ○ Saccharin
  - ○ Bitrex
- ☐ Quantitative

Type:
- ☐ N95 ☐ 1/2 Face
- ☐ N100 ☐ Full Face
- ☐ PAPR (No fit test required with loose-fitting PAPR)

PLEASE PRINT ALL INFORMATION LEGIBLY FOR PROPER CREDIT.

Appendix G: Respirator Training Program Outline

Respirator Training Program Outline

1. Engineering Controls vs PPE
2. Routes of Exposure
3. OSHA's Respirator Standard 29 CFR 1910.134
4. Supplied Air Respirators (SARs) vs Air Purifying Respirators (APRs)
5. Air Purifying Respirators – Use, Limitations, Cartridge/filter Selection, Protection Factors
6. Cartridge/filter selection
7. Cartridge change out schedule: Appendix C of Respirator Program
8. Maintenance and Cleaning
9. Inspection of Respirator
10. Storage
11. Medical Surveillance
12. Seal checks
14. Fit-testing conducted

Appendix H: Voluntary Use of Dust Masks – Required Information

This form is provided to all voluntary users of filtering facepieces (N95 or N100 masks) at Yale University.

Yale EHS Use Only
Course: PH622
Date Rec'd:

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.

By submitting this form, I verify that I have received Appendix D of 29 CFR 1910.134 (Information for Employees Using Respirators When Not Required Under the Standard – Filtering Facepiece ONLY) and understand the requirements.

Name: NetID:

Appendix I: SCBA Checklist

SCBA CHECKLIST

Perform Inspection in Order Listed Below

SCBA Unit Number _____ **□= OK**

Test: **Date:**						
Cylinder Check: Cylinder Filled (>30 min)						
High Pressure Alarm (open cylinder valve, listen)						
Valve Packing not leaking? (listen, close cylinder valve)						
Regulator Pressure Gauge (reads same as cylinder?)						
Low Pressure Alarm (open purge, close)						
Straps: Complete Set						
Not Frayed or Damaged						
Buckles: Lock Correctly						
Back Plate and Cylinder Lock:						
No Missing Rivets or Screws						
Strap Tightener and Lock Fully Engaged						
Cylinder: Tightly Fastened to Backplate						
Hydrostatic Test Date (within 5 years)						
No Cuts in Fiberglass Wrap						
Gauge Face Clear						
High-Pressure Hose and Connector Condition:						
Facepiece: Lens Clear						
Overall Condition						
Breathing Tube and Connector: Condition						
Storage:						
Re-check gauge - Cylinder Full (>30 min)						
Pressure Bled from Hose and Regulator						
Cylinder, Purge Valves Closed						
Straps, Facepiece Reset/ Stored Properly						
INSPECTION PERFORMED BY: (initial)						

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 °C [110 °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, preferably running water. Drain.
D. 1 When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
    a. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of warm water; or,
    b. 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 warm water; or,
    c. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
  2. Rinse components thoroughly in clean, warm, 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.
E. Components should be hand-dried with a clean lint-free cloth or air-dried.
F. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.
G. Test the respirator to ensure that all components work properly.

Appendix K: Medical Qualification Questionnaire

Yale Health Center
55 Lock Street
PO Box 20837
New Haven, CT. 06520
(203) 432-0071

DEPARTMENT OF EMPLOYEE HEALTH
OSHA RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

For Employee Health Use Only			
	N95/100		Full Face Neg Press
	PAPR		SCBA
	½ Face Neg Press		Airline Resp

TO THE EMPLOYER:
Answers to questions in Section1, and to question 9 in Section 2 of Part A, do not require a medical examination.

TO THE EMPLOYEE: 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 *(including 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)*:
    _____ N, R or P disposable respirator (filter-mask, non-cartridge type only).
    _____ 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): _____

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) Silicosis: ..... 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 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 used a respirator, have you ever had any of the following problems? If you 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 answer to the 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).

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 ear drum: ..... 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

1. 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: _____
2. 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 the exposures: _____
3. List any second jobs or side business you have: _____
4. List your previous occupations: _____
5. List your current and previous hobbies: _____
6. 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
7. Have you ever worked on a HAZMAT team? ..... Yes No
8. 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: _____

9. 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

10. 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

11. During the period you are using the respirator(s), is your work effort *(check one)*:
   Light _____ Moderate _____ Heavy _____

12. When you're using your respirator will you be wearing protective clothing and/or equipment (other than the respirator):
   Yes No
   - If "yes" describe this protective clothing and/or equipment: _____

13. Will you be working under hot conditions (temperature exceeding 77degrees): ..... Yes No

14. Will you be working under humid conditions: ..... Yes No

15. Describe the work you'll be doing while you're using your respirator(s): _____

16. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases): _____

Signature _____ Date: _____

Date of Birth: _____ Net I.D. _____

EMPLOYER'S INFORMATION

Type of respirator: _____

Weight of respirator: _____

Expected Physical work effort when respirator is in use: _____

Additional protective equipment to be worn: _____

Please note any extreme of temperature or humidity: _____

PLEASE RETURN COMPLETED FORM TO:

Employee Health Clinician
Yale Health Center
55 Lock Street
PO Box 20837
New Haven, CT. 06520
FAX: 432-7828

Appendix L: Safe Use of Respirators Under the OSHA COVID-19 ETS

Respirators can be an effective method of protection against COVID-19 hazards when properly selected and worn. Respirator use can provide an additional level of comfort and protection for workers even in circumstances that do not require a respirator to be used. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. OSHA's COVID-19 Emergency Temporary Standard (ETS) requires training for all employees who may wear a filtering facepiece respirator (e.g., N95) in circumstances where they are being worn for enhanced protection against COVID-19, in situations where only facemasks would be required by OSHA.

1910.504 – Mini Respiratory Protection Program ("mini RPP")

- Applies when employees use respirators where only facemasks are required by OSHA.
- In contrast, OSHA's normal Respiratory Protection Standard (1910.134) applies whenever respirators are required by OSHA.

Why Is This Training Necessary?

- Wearing a respirator can, in and of itself, can present a hazard, such as:
    - Causing difficulty breathing when you have certain underlying medical conditions.
    - Causing a facial rash if the respirator has not been properly cleaned or stored.

In order to ensure that the respirator itself does not present a hazard, you need to take certain precautions:

1. Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and **warnings regarding the respirator's limitations**.
2. Keep track of your respirator so that you do not mistakenly use someone else's respirator.
3. Do not wear your respirator where other workplace hazards (e.g., chemical exposures) require use of a respirator. In such cases, your employer must provide you with a respirator that is used in accordance with OSHA's Respiratory Protection Standard (1910.134).

Filtering Facepiece Respirators (FFR)

Filtering facepiece respirators, **referred to as "FFRs,"** are disposable respirators, normally intended for single-use. They protect you by filtering particles, such as COVID-19 particles, out of the air as you breathe. N95s are the most commonly used FFRs.

Fit Testing

- A fit test evaluates the fit of a tight-fitting respirator to an individual's face.
    - It verifies that you have found a make, model, and size of respirator that fits to your face.
    - Much like finding a style and size of shoe that fits your foot properly.
    - Fit testing is required under the normal RPP.
- Fit testing is **not** required under the mini RPP.
    - Without a fit test, there is less control over whether employees are receiving the full, expected level of protection that a respirator is capable of providing. Therefore, a user seal check is required each time you put on your respirator.

User Seal Checks

- A user seal check determines whether a tight-fitting respirator has properly sealed to your face once it has been put on.
- A user seal check must be conducted each time you put on a respirator.
- Two types of user seal checks:
    - Positive pressure user seal check - the respirator user exhales.
    - Negative pressure user seal check - the respirator user inhales.

To conduct a positive pressure user seal check for a FFR:

1. Once you have conducted proper hand hygiene and properly donned the respirator, place your hands over the facepiece, covering as much surface area as possible.
2. Exhale gently into the facepiece.
3. The face fit is considered satisfactory if a slight positive pressure is being built up inside the facepiece without any evidence of outward leakage of air at the seal. Examples of evidence that it is leaking could be:

- The feeling of air movement on your face along the seal of the facepiece.
- Fogging of your glasses.
- A lack of pressure being built up inside the facepiece.

To conduct a negative pressure user seal check:

1. Once you have conducted proper hand hygiene and properly donned the respirator, cover the filter surface with your hands as much as possible and then inhale.
2. The facepiece should collapse on the wearer's face and should not feel air passing between the face and facepiece.

How To Put On And Remove a FFR

Review OSHA's "Seven Steps to Correctly Wear a Respirator at Work" on the following page. Additionally, you can watch a video depicting these steps.

Medical Signs and Symptoms

Medical evaluation, to determine if an employee is medically fit to use a respirator, is required under the normal RPP, but **not** under the mini RPP. However, it is important to recognize signs and symptoms that could impair your ability to wear/continue to wear a respirator. These include: shortness of breath, coughing, wheezing, chest pain, or any other symptoms related to lung problems or cardiovascular symptoms. Discontinue respirator use immediately and notify your supervisor if you experience any of these conditions while wearing a respirator.

Inspection, Storage and Reuse of FFRs/N95s

Inspect a FFR before each use. Check for damage to the filter, straps, and seal.
The reuse of single-use FFRs is discouraged. However, if an FFR is to be reused, it must only be reused by the employee it was provided to and only under the following conditions:

- The respirator is not visibly soiled or damaged;
- The respirator has been stored in a breathable storage container (e.g., paper bag) for at least 5 calendar days between use and has been kept away from water or moisture;
- The employee does a visual check in adequate lighting for damage to the respirator's fabric or seal;
- The employee successfully completes a user seal check;
- The employee uses proper hand hygiene before putting the respirator on and conducting the user seal check; and
- The respirator has not been worn more than five days total.

Questions

Questions on this training or use of N95s under this ETS should be directed to ehs@yale.edu.

Training Credit

To receive credit for this training, please complete quiz.

Section 3. References

References are located in the Environmental Health & Safety office.

1. Departments with Respirator Requirements