



Respiratory Protection Newsletter - September 2026

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Respirator Fit Testing Workshop**

**Oct 27, 2026
Oct 28-29, 2026**

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Making qualitative fit testing more reliable

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Facial Hair and N95 Fit in a Community Setting: What This Study Means for Respirator Users

A 2026 article by Hosseinabadi reported N95 filtering facepiece respirator (FFR) fit test pass rates in a general population, specifically examining the influences of gender, age group, race and facial hair. For the purpose of this newsletter, I'll focus solely on facial hair and the fit of N95 FFRs in a community setting, where wearers are not required to be clean shaven. The study enrolled 384 participants attending the Minnesota State Fair in 2021 and 2022 and evaluated a single respirator model, the 3M Aura 9205 plus. Because this was a community setting, participants were not required to comply with the OSHA Respiratory Protection Standard which would otherwise apply to employers.

For this study, quantitative respirator fit testing was conducted with a TSI PortaCount Pro+ Model 8038, operated in the N95 companion mode. To reduce participant time, the researchers did not use all of the OSHA required fit test exercises. Instead they used only a single exercise: talking. Participants read the Rainbow Passage for 60 seconds and a passing fit factor of 100 was used to assess respirator fit. The authors reported that the 60-second talking exercise using the Rainbow Passage was selected because this exercise is particularly sensitive to detecting poor N95 FFR fit compared with other exercises.

Participants were shown how to don the respirator, including proper placement of the straps and molding of the nose clip around the nose, without additional formal training. They were also not taught how to perform seal checks. This design allowed the authors to simulate real-world community conditions and evaluate how well a general population dons one N95 FFR model known to have good fitting characteristics. This is a useful design for public health situations because community respirator users receive little or no formal respirator training before wearing a FFR.

Respirator fit assessment pass rates were significantly lower for males with facial hair compared to males

Remaining Respirator Training Schedule

Overview of Respiratory Protection:
Oct 27, 2026

Fit Testing Workshop (2-day):
Oct 28-29, 2026

without facial hair. None of the participants with full beards achieved an acceptable fit. Results showed significant differences in respirator fit based on facial hair type, with a progressive decrement in fit assessment pass rates as the area of skin covered by facial hair and the length of facial hair increased. Men without facial hair had the highest pass rates, followed by those with stubble, mustaches, and goatees. No males with full beards were able to pass the fit test.

For safety and health professionals, fit testers, occupational health nurses, and others who advise respirator users, the take-home message is straightforward: facial hair that interferes with the respirator sealing surface can substantially reduce the likelihood of achieving an adequate N95 FFR fit. While OSHA-required workplace respirator programs require a clean-shaven sealing area, this study is especially relevant to community use because participants were not required to be clean shaven and received only basic donning demonstration. However, this study does provide insight for workplaces that provide N95 FFRs for voluntary use, where facial hair may be present. Even with a widely available N95 FFR model with good fitting characteristics, full beards prevented acceptable fit in this study, and increasing facial hair coverage or length reduced pass rates.

For read the entire article, go to the source: Hosseinabadi MB, et.al. N95 filtering facepiece respirator fit assessment outcomes by gender, age, race, and facial hair in a community population sample *Annals of Work Exposures and Health*, 2026, Volume 70, Issue 5, 1-13.

<https://doi.org/10.1093/annweh/wxag050>

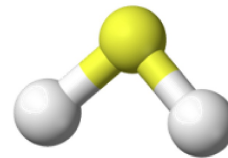
Wanted: Fit Test Adapters

Rather than throwing away damaged fit test adapters, consider donating them to our fit testing workshops. We strive to make our fit testing workshops as realistic as possible. Incorporating damaged and undamaged fit testing adapters provides a valuable training experience.

Undamaged fit test adapters are also needed. On average, we lose 1-2 fit test adapters every workshop due to wear and tear, poor adapter design, improper removal and other causes. If you no longer conduct fit testing, rather than putting unwanted adapters into a landfill or taking-up space in your cabinet, donate them to our workshop. If you're a respirator manufacturer, perhaps you can step up and make a contribution.

Another Fatal Hydrogen Sulfide Release

This is becoming a common occurrence for this newsletter. On April 22, 2026, a release of hydrogen sulfide (H₂S) at the Catalyst Refiners facility in Institute, West Virginia, killed two employees and seriously injured four others. Eighteen people were transported to local medical facilities for evaluation, including first responders. The U.S. Chemical Safety and Hazard Investigation Board (CSB) is continuing its investigation.



This facility had been in the process of shutting down and decommissioning its operations. Although its normal silver reclamation process had stopped and much of the process equipment had been removed, the wastewater pretreatment system remained in operation. As part of the decommissioning process, employees were disposing of several chemicals through the wastewater system. These included A-50, a calcium chloride coagulant; M-2000A, a sodium trithiocarbonate-based metal precipitant; and nitric acid remaining from the silver reclamation process. Nitric acid is incompatible with M-2000A.

What Happened?

On the morning of the incident, employees transferred approximately one and one-half 55-gallon drums of A-50 into an open-top wastewater receiving tank. They then transferred almost an entire 275-gallon tote of M-2000A into the same tank. Next, they began pumping diluted nitric acid into the tank.

After about five inches of nitric acid had been pumped, employees observed a reaction occurring in the tank and a fog forming above it. The employee operating the pump stopped the transfer and went outside to get some fresh air, passed out, and, when he regained consciousness, notified the production supervisor of the reaction and that the resulting vapors caused him to lose consciousness. The situation rapidly escalated. A relief shift supervisor entered the production area and lost consciousness. Two additional employees subsequently approached the area. One collapsed, and the other attempted to pull the unconscious supervisor away from the tank but was also overcome. Those two employees later died from their injuries. Other employees then entered the area to remove the collapsed workers.

Investigators determined that hydrogen sulfide had been released. H₂S is a colorless, highly toxic gas capable of causing severe respiratory effects. The CSB notes that concentrations as low as 100 ppm are considered immediately dangerous to life or health (IDLH), while concentrations above 1,000 ppm can cause nearly instantaneous death.

A Respiratory Protection Failure

Of particular concern to respiratory protection professionals is what the CSB found following the incident. Workers told investigators that after the facility transitioned from normal production to decommissioning, respirator use was no longer required. The company also did not provide or require employees or contractors to use personal gas monitors.

During its post-incident inspection, the CSB found four full-facepiece respirators at various locations throughout the facility. Three of these were equipped with 3M 2091 P100 particulate filters. A photograph of one of these respirators is shown below. The others are shown in Figure 5 of the CSB investigation update.



These full-facepiece respirators with P100 filters are designed to remove particulates; they do **not** provide protection against hazardous gases such as H₂S. Hydrogen sulfide is heavier than air and tends to travel near the ground during a release.

Take Home Message

This incident illustrates an important point for respiratory protection program administrators, fit test operators, occupational health professionals, and safety personnel. That is: a respirator cannot be evaluated simply by looking at the facepiece design. The entire respirator configuration must be appropriate for the hazard.

A worker may be medically qualified, trained, and successfully fit tested with a full-facepiece respirator, but will **not** receive adequate protection if the wrong filters or cartridges are installed. Likewise, if the wrong type of respirator is selected, the wearer will not be properly protected. In this case, the P100 filters found by investigators offered no protection against the hydrogen sulfide gas released during the incident.

The CSB investigation is still underway, and its final report may provide additional findings and recommendations concerning chemical hazards, decommissioning activities, personal protective

equipment, and corporate oversight.

To read the complete report [Click Here](#)

Source: U.S. Chemical Safety and Hazard Investigation Board, “Fatal Toxic Hydrogen Sulfide Release at Catalyst Refiners, Inc., Institute, West Virginia,” Investigation Update, August 2026. Incident date: April 22, 2026.

Fatal Nitrogen Release Shows Why Rescue Requires Supplied Air

In an August 25, 2026 announcement, the U.S. Chemical Safety and Hazard Investigation Board (CSB) released an instructional video, “**Fatal Fog: Liquid Nitrogen Release at Foundation Food Group**”, which reconstructs an incident I believe occurred. January 28, 2021 (the CSB reported 2026). Regardless of the incident date, the video emphasizes deficiencies in atmospheric monitoring, alarms, emergency preparedness, and safety management. In this particular incident, respiratory protection was not used. The video is available at: <https://www.youtube.com/watch?v=-UoyIV6oZEc> Or, [Click Here](#)

What happened?

On January 28, 2021, a liquid nitrogen release from an industrial food-freezing system created a deadly oxygen-deficient atmosphere inside a poorly ventilated room. A damaged liquid-level sensing tube caused excessive liquid nitrogen to enter and overflow the freezer. As the liquid nitrogen rapidly vaporized, the expanding nitrogen gas displaced oxygen from the room. Two maintenance workers were initially overcome and died. During the subsequent response, other employees entered or approached the affected area in attempts to investigate or rescue their coworkers. Four additional employees died from asphyxiation and three others were seriously injured including a firefighter. The CSB concluded that workers had not been adequately trained or equipped to respond to a liquid nitrogen release.



One particularly important respiratory-protection lesson deserves additional emphasis: workers attempting rescue or investigation were not using atmosphere-supplying respiratory protection capable of supporting life in the oxygen-deficient atmosphere. Under OSHA respiratory protection requirements, when an oxygen-deficient atmosphere is immediately dangerous to life or health (IDLH), entry into such an atmosphere requires an appropriate atmosphere-supplying respirator. For IDLH entry,

OSHA specifies either a NIOSH-approved full-facepiece, pressure-demand SCBA with a minimum 30-minute service life, or a combination full-facepiece, pressure-demand supplied-air respirator (SAR) with an auxiliary self-contained air supply.

Furthermore, if an employer permits employees to perform emergency rescue in an oxygen-deficient atmosphere, simply having SCBA or supplied-air equipment available is not enough. Personnel must be appropriately trained for the emergency response, medically evaluated for respirator use, trained specifically on proper use of the respirator to be used, and, fit tested before use and at least annually thereafter for tight-fitting facepieces. Appropriate emergency procedures and rescue support must also be established in advance. This incident is a tragic reminder that an unprotected rescue attempt in an oxygen-deficient atmosphere can quickly turn one victim into several.

If your facility uses liquid nitrogen or other inert gases, watch the CSB video. It's only 20 minutes long.

Infections and biological hazards at work: updated guidance

The Health and Safety Executive (HSE) in the United Kingdom has published updated guidance on managing infection risks and biological hazards in workplaces.

The updated guidance is designed to help employers identify biological hazards that may be present in workplaces and provides practical advice on carrying out risk assessments.

The guidance includes:

- an introduction to biological hazards at work
- information on preventing incidental exposures to biological agents and infections
- guidance on safe deliberate work with biological agents
- information for workers on how they should be protected from infection at work
- guidance on pandemic preparedness and response

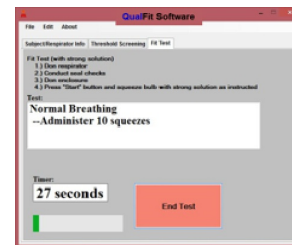
For additional information, go to the HSE website at www.hse.gov.uk or [Click Here](#) for a direct link.



QualFit® Software®

An easier, more accurate, and defensible way to administer respirator fit tests using sweet or bitter fit test methods.

QualFit® software® automates and records qualitative respirator fit testing using Saccharin and/or Bitrex aerosol solutions. The software prompts the operator to deliver the aerosol solution with the correct number of squeezes for each exercise, at the proper time, and in the proper order. This improves fit testing accuracy. The software displays the current



exercise in progress, automates the timing sequence and calculates the number of squeezes to be administered, based on threshold screening results. Visual and audible prompts allow the operator to focus their attention on the respirator wearer. The entire procedure becomes less frustrating for the operator and subject being tested. The software tracks each step of the fit testing procedure required in mandatory Appendix A of the OSHA Respirator Standard. QualFit® software improves the quality and efficiency of respirator fit testing. An OSHA compliant report can be printed or electronically saved. The employer benefits by knowing the test procedure was properly administered and provides written documentation for compliance with record keeping requirements specified in paragraph "m" of the OSHA standard. The employee benefits by knowing a standardized procedure was followed, rather than what often appears to be a random procedure.

QualFit® - Making Respirator Fit Testing Simple

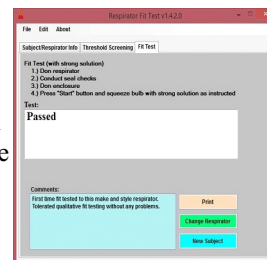
For Information visit: www.QualFit.net

To place a secure online credit card order visit: <https://qualfit-software.square.site/>

The name (mark) QualFit® is registered with the U.S. Patent & Trademark Office.

QualFit® Software® is registered with the U.S. Copyright Office June 13, 2021.

Screen capture showing test passed and operator comments. Includes option to print now or later, change to a different respirator, or select a new subject.



Mail from Readers:



A Clear Oversight

About 50 years ago, I was a fresh out of school IH graduate. I decided to join the VFD [Volunteer Fire Department] in my area to learn more about firefighting. The very first fire I made entry on was a house fire. After donning the SCBA, I went in with a group of my fellow firefighters for an interior attack. We put out the fire quickly, but I got lots of smoke in the mask. I complained to the chief at the scene. He looked at me and grinned and said, "It probably would have worked better if you had taken your glasses off." Kind of embarrassing.

Mail from Readers is an opportunity to share real-life experiences not found in traditional publications or research articles. Yet, these experiences can be informative to others.

Note: Mail from Readers with spelling errors, duplicate words and/or grammar may be corrected. Any changes made do not change context. Portions not relevant to the topic may be removed. Names and/or identifiers are removed.

Getting Rid of Suction Cups - Tubing Holders™ Now Available

If you're frustrated with suction cups that won't stick to the ideal sample location or fall off during fit testing, then Fit Test **Tubing Holders™** are the solution. Tubing holders replace suction cups and clips used with ambient aerosol quantitative respirator fit testing equipment, such as the TSI PortaCount®, AccuFIT 9000®, and AeroFit® systems. Tubing holders make fit testing **faster, easier, and more reliable**. More importantly, they reduce the occurrence of passing of poorly fitting respirators. They're also more hygienic and re-usable. In the long term, they're less expensive than replacing suction cups and clips.



When a suction cup dislodges during a fit test, testing must stop and the subject must remove (doff) the facepiece. The operator must then re-install the suction cup, repeat another donning with seal checks, re-start the fit test, and hope it doesn't happen again.



Tubing Holders™ are also easier to remove. No more struggles trying to pull the metal clip from the interior sample tubing. You'll also save the embarrassment of repeating fit tests when suction cups unknowingly dislodge. Rubber suction cups are not flavored and don't taste good. Consequently, there's no satisfaction when a suction cup dislodges and the subject sucks on it like a lollipop.

For additional information use this link:

<https://roy-mckay-phd.square.site/tubing-holders>

Or, [Click Here](#)

OSHA News

Brick manufacturer willfully exposing workers to silica

In an August 26, 2026 News Release (26-1308-PHI) OSHA announced it has cited a brick manufacturer in Watontown, PA, with three willful and four serious violations for knowingly exposing its workers to unsafe levels of respirable silica dust. Proposed fines approach \$500,000.

During a Feb 12, 2026, investigators inspected General Shale Brick Inc. (doing business as Watontown Brick Company) as part of the agency's Site-Specific Targeting inspection plan and national emphasis program on silica as well as a review of the company's injury and illness records. OSHA found that workers in Plant 3, where molded brick is made, breathed in silica dust above safe limits. OSHA claims the company knew about the exposure but failed to fix the problem or require workers to wear respirators.

OSHA also determined the company failed to test workers' respirator fit each year, did not establish regulated areas where employees are exposed to silica, did not check silica exposure levels for all silica-involved jobs, and did not provide required medical exams for workers exposed to silica for more than 30 days a year. A past violation for missing respirator fit tests, at the company's Augusta, Georgia site, led to an added repeat violation.

OSHA issued three willful, four serious, one repeat, and one other-than-serious violation, with proposed penalties of \$496,528.

To learn more [Click Here](#)

NIOSH News

Publications Available

NIOSH Action Protects Approval Integrity

In an effort to protect workers from fraudulent respiratory protection products, NIOSH has been aggressively identified and removed these products from online sources.

According to a August 2026 infographic released by NIOSH, more than 1,000 online product listings that misrepresent the NIOSH approval have been removed. This action has prevented over 36,000 items having a combined value of more than \$1,042,000 from entering the market.



To see the August 2026 infographic, [Click Here](#)

Rescinded Respirator Approvals

Masprot Rescinds 3 Respirator Approvals

NIOSH has honored a request by Masprot S.C., EI, LTDA to rescind 3 respirator approvals.

As of August 27, 2026, any respirator marked with a NIOSH approval label and approval numbers listed below are **no longer NIOSH Approved**. The NIOSH Certified Equipment List (CEL) no longer includes these approval numbers.

Approval Number TC-	Product Line or Model
23C-2914	Model Supreme Plus Intercommunicator Half Mask with Chemical Cartridge Air Purifying Respirator
84A-6852	Model Supreme Plus Intercommunicator Half Mask with Filter Air Purifying Respirator
84A-6853	Model Supreme Plus Intercommunicator Half Mask with Cartridge and Filter Air Purifying Respirator

Due to the voluntary rescission of NIOSH approval, respirators bearing the above NIOSH approval

number may **no longer** be used, manufactured, assembled, sold, or distributed.

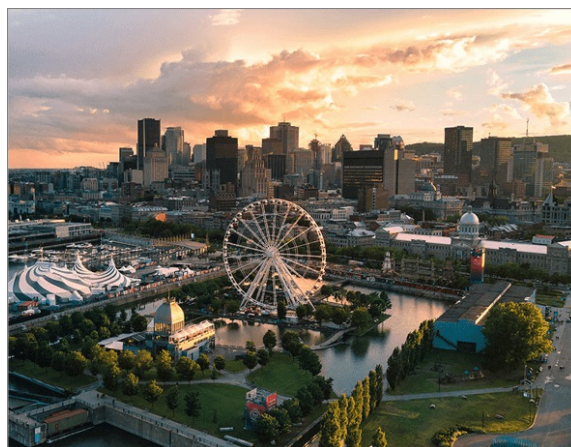
For additional information and to read the Conformity Assessment (CA) Notice CA 2026-1110 [Click Here](#)



ISRP News

International Conference: Oct 19-23, 2026

ISRP International Conference will be held October 19-23, 2026 at the Centre Mont-Royal in Montreal, Canada.



For information, venue information, sponsorship opportunities, call for papers, etc., use this URL: <https://www.isrp.com/news/isrp-2026-centre-mont-royal>
Or, [Click Here](#)



Wanted: Photos & Videos of Improper Fit Testing

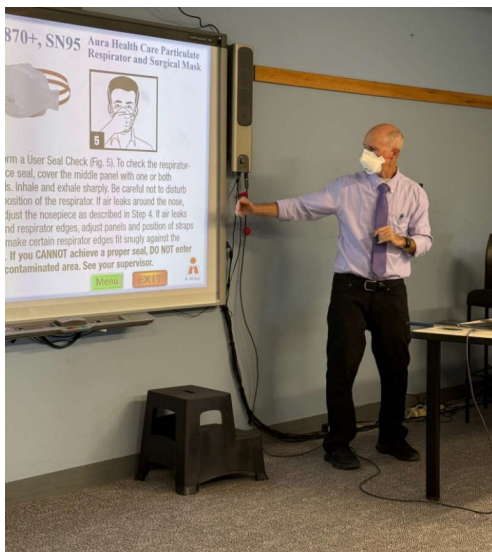
To my readers, please continue sending photos, videos and testimonials of improperly conducted fit testing. If you worked for an employer that conducted fit testing improperly, share your story. If your employer knowingly had the fit test operator administer the test incorrectly, share this too. I promise to keep your name and employer name confidential. Or, let me know if I can share it. If you have a good story, photo or video, send it to Roy@DrMcKay.com

Medical Complications from Respirator Use

OSHA requires respirator medical clearance for persons required to wear respiratory protection. Researchers at the University of Cincinnati are collecting information on persons who:

- 1) Developed a medical complication while wearing a respirator, and
- 2) Identify pre-existing medical conditions causally related to the complication that developed.

If you have information (published or un-published) that establishes a link between a specific medical condition and a complication that developed as a result from wearing a respirator or during fit testing, please share this information with us. We're particularly interested in cases where a medical complication was induced by respirator use. Information such as the specific type of respirator worn, work environment, duration of use, level of physical exertion, underlying medical conditions that contributed to the complication, etc., is needed. You can send this information to: info@DrMcKay.com



Dr. McKay at Respirator Fit Testing Workshop, Bermuda, October 2025

Training Opportunities



Cincinnati Respirator Training Courses:

Dr. McKay and the University of Cincinnati are pleased to announce the following Respirator Training programs. They are:

Overview of Respiratory Protection:

<https://www.drmckay.com rtc-overview.shtml>

Oct 27, 2026

Fit Testing Workshop (2-day):

<https://www.drmckay.com rtc-workshop.shtml>

Oct 28-29, 2026

Respirator Selection & Cartridge Change Out Schedule Workshop.

https://www.drmckay.com rtc-resp_selection.shtml

May 11-12, 2027 (tentative date)

Fit Testing Refresher & Advanced Topics

<https://www.drmckay.com rtc-resp-refresher-advanced.shtml>

May 13, 2027 (tentative date)

Overview of Respiratory Protection:

This 1-day course provides a practical overview of respirators, standards, guidelines, use, and limitations of commonly used air purifying respirators. This class also provides an excellent overview of the OSHA Respirator Standard. Little or no prior formal training is required. The morning session includes lectures on the types and use of respirators and basic respirator selection procedures using APFs and MUCs. The advantages and disadvantages of different respirator facepieces, filters (N, R, & P), cartridges, PAPR's, and the physiologic effects of wearing a respirator will also be discussed. Respirator standards and program requirements will be reviewed to help the student comply with OSHA regulations. This class will help the student understand the most significant physiologic effects of wearing a respirator and OSHA requirements for respirator medical clearance. An introduction to qualitative and quantitative fit testing and seal check procedures will be covered (unless all attendees are participating in the fit testing workshop, where these topics will be covered more comprehensively). This course is essential for those individuals who oversee

respirator users in their work place or new to respiratory protection.

For additional information and listing of course topics, request a brochure.

This course can be given at your location.

Fit Testing Workshop (2-days):

This two (2) day workshop provides comprehensive lecture and "hands-on" training for students who need to learn how to conduct an OSHA accepted qualitative or quantitative respirator fit test. Students will have an opportunity to fit test a variety of different style facepieces, including filtering facepieces, half, & full. A combination of lecture and "hands-on" testing in the presence of a trained and experienced instructors will be used to help participants learn how to conduct respirator fit testing to satisfy regulatory requirements. Hands-on fit testing will include qualitative and quantitative methods. The following types of fit testing equipment will be available: Saccharin (sweetener) and Bitrex (bitter) qualitative fit test kits using squeeze-bulb nebulizers, including **QualFit®** software[©]. Quantitative fit testing with the TSI PortaCount, AccuFIT 9000, and the OHD QuantiFit[©]. Class size will be limited to ensure a favorable faculty to student ratio. Students will learn how to set-up, operate, maintain, troubleshoot, analyze, and interpret fit test results. Where appropriate, students will learn how to calibrate testing equipment and record results. All course materials, supplies, equipment, and reference manuals will be provided.

Students will also disassemble, reassemble, and inspect respirators for common problems. The workbook alone is a valuable reference for solving fit testing problems in the future.

This course uses a combination of lecture and small practicum groups to ensure students have ample time to practice and learn fit testing techniques. The second day provides students sufficient time to concentrate on the particular methods of interest to them. The "Hands-On" approach is emphasized in this course. Students will have the opportunity to fit test several different make and model respirators. The fit testing workshop provides an opportunity to see and experience many different types of commonly used fit testing methods (qualitative and quantitative).

Individuals who plan to attend the fit testing workshop, but have little or no experience with respiratory protection should take our 1-day "Overview" class, routinely offered before the fit testing workshop. A substantial discount is given when both courses are taken.

Dr. McKay is the past chair of the ANSI Z88.10

Respirator Fit Testing sub-committee, a voting member of the ASTM sub-committee on respirator fit test methods, the AIHA Respiratory Protection Committee, and others.

Respirator Selection & Development of Change Out Schedules

This 2-day workshop provides guidance on respirator selection and the development of an OSHA compliant change out schedule for cartridges and filters. A combination of lecture and practice problem sessions will be used. Instructional methods will include comprehensive lectures on each topic, practice problems, and an explanation of the solution by Roy McKay, Ph.D. This course is designed to teach the student how to select a respirator based on workplace conditions (exposure level, type of contaminant, etc.). However, there is more to respirator selection than comparing exposure levels to Assigned Protection Factors (APF's). Respirator selection is an information gathering process. This process, as well as its limitation and pitfalls will be shared with the student to help him/her select respiratory protection when the SDS simply says to "use a NIOSH approved respirator when exposure levels are exceeded". Students will also learn how to select a specific filter/cartridge (when appropriate). Guidelines for development of an OSHA compliant cartridge/filter change out policy will also be taught. Nearly ten 10 methods for developing a cartridge change out schedule (in addition to the usual guidelines of odor detection, ESLI, damage, etc.) will be provided. Perhaps the most useful and practical aspects of this class is learning how to merge various change-out methods to solve practical problems when computer software models don't work. Methods to confirm change out schedules will also be presented. Factors that affect re-use of cartridges due to desorption and migration will be presented to help understand if and when cartridges can be re-used. In-class practice problems help the student recognize if the training material is understood. This workshop is an excellent way to learn selection and change-out procedures from someone who routinely solves these and other respirator problems.

Partial Listing of Topics

Respirator Selection

- * Review of facepiece definitions and modes of operation.
- * Practical and theoretical basis for respirator selection based upon:
Assigned Protection Factors (APF)
 - MUC's, HR's, IDLH, etc.
- * OSHA guidelines for respirator selection.
 - IDLH and non-IDLH atmospheres.
- * Selection steps and information gathering procedures.
- * Minimum respiratory protection versus practical

alternatives.

- * Filter selection issues
 - How to select an N, R, or P filter.
 - Why filter selection is influenced by exposures below the exposure limit.
 - How to choose a 95 versus 100 filter.
- * Practical methods for handling unknown concentrations without defaulting to an SCBA.
- * Calculating MUC's for mixtures.
- * Selection Workshop
 - Practical problems and solutions.

Development of Cartridge Change Out Schedules

- * OSHA recommendations for a change out policy.
- * Factors that affect cartridge service life.
- * Learn how to develop an OSHA compliant change out schedule.
- * Understanding the breakthrough curve.
- * Common methods used to define breakthrough.
- * What level of breakthrough should be used?
- * Work rate tables.
- * Effect of high relative humidity.
- * Methods for determining service life (use, limitations, and practice problems)
 - OSHA recommendations
 - Rules of thumb
 - Using laboratory data
 - Using math models
 - Using computer (software) models
 - Cartridge testing methods (3 methods)
 - Combining methods
- * Learn how to develop a change schedule when computer models are not available.
- * Recommendations for mixtures:
 - OSHA compliance method
 - mole fraction method
 - multi vapor model
- * How to confirm your change-out schedule.
- * Storage and migration concerns.
- * Immediate Breakthrough Upon Reuse (IBUR) concepts

Gain confidence your current procedures are correct!
For additional information and listing of course topics, request a brochure.
This course can be given at your location.

Fit Testing Refresher & Advanced Topics:

This 1-day course is specifically designed for the person who has been conducting fit tests, but has not had formal training or needs a review. This course reviews OSHA fit testing requirements and helps the operator understand **why poorly fitting respirators pass fit testing and why good fitting respirators fail**. It also provides an opportunity to discuss advanced topics not covered during a typical 2-day fit testing workshop due to time limitations. This course is also valuable for respirator program administrators

who need a better understanding of fit testing procedures and assurance that their fit testing program is being run properly. The emphasis of this course is on quantitative fit testing, although many of the concepts are applicable to all fit test methods.

Partial Listing of Topics

Review of fit test procedures
Facial hair: issues & solutions
Selection process
Comfort assessment
Interference with PPE
Establishing pass/fail criteria
Pass-fail criteria for annual (follow-up) fit testing
Interpretation of fit test results
Why high fit factors are not always good
Why seal checks fail to detect leakage
Why seal checks create leaks not present
Proper use of fit test adapters
Selecting sample probe location
Why leaking respirators pass fit testing
Why good fitting respirators fail fit testing
What OSHA doesn't say about fit test exercises
What does a high fit factor really mean?
When is quantitative fit testing required?
Opportunity to get answers to your questions

This course is **not** a substitute for those who require an initial "hands-on" fit testing workshop. For initial training, students should take our 2-day fit testing workshop.

For additional information and listing of course topics, request a brochure.
This course can be given at your location.

Onsite Fit Testing Workshop for N95 Filtering Facepiece Respirators

This comprehensive one-day workshop delivers expert-led instruction by Dr. McKay with "hands-on" experience to help you perform OSHA-accepted respirator fit testing -accurately and efficiently. Whether you're new to fit testing or need a refresher, you'll gain practical skills to improve testing outcomes and save time.

Participants choose the fit testing methods most relevant to their needs; quantitative and/or qualitative:

Quantitative:	TSI PortaCount, AccuFIT 9000,&/or AeroFit
Qualitative:	Saccharin (sweet) &/or Bitrex (bitter); including QualFit® testing software , which makes qualitative fit testing easier and more reliable.

Regardless of the N95 fit test method or methods requested, you'll learn how to set up, operate, maintain, troubleshoot, and interpret results with confidence.

Class sizes are intentionally small to ensure personalized instruction and real-world practice. If respirator fit testing is part of your job, this course is essential. This training program will accelerate your learning experience and improve the quality of your fit testing program overnight. The included workbook will be your go-to resource long after training ends. OSHA/NIOSH/ANSI & ASTM tell you what to do, but not how or why. Learn from a master fit tester.

For additional information and listing of course topics, request a brochure.
This course can be given at your location.

QualFit® Respirator Videos

For information about QualFit® Software® for qualitative respirator fit testing with sweet and/or bitter agents, go to www.QualFit.net



What is QualFit® Software®?

12 minutes

<https://youtu.be/RwdMfrQXdTY>



Basic Operation of QualFit® Software®:

18 minutes

<https://youtu.be/vfwfuVOKAKw>



Comprehensive Fit Test Training Video

54 minutes

<https://youtu.be/FxpVsm3OhLY>



Respirator Fit Testing Errors and Solutions - 21 minutes

<https://youtu.be/0RsQEeOcS7o>



QualFit® Full Screen Option - (5 min)

<https://youtu.be/RJr-IKTLas>

The full screen exercise option makes it easier for the test operator to visualize the exercise testing screens during the test procedure, even when standing 8 feet away. In addition, audio beeps and changes in font color help the operator to deliver the aerosol at the proper time and sequence.

Share Your Respirator Experience

Here's an opportunity to contribute your knowledge and experience to others. If you have an interesting respirator selection or other challenging respirator problem (and solution), please submit it to info@DrMcKay.com. I may use your real-life problem to help train students in our graduate and continuing education programs in respiratory protection or use it in this newsletter. This transfer of information will benefit others, maybe even your children or grandchildren.

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Roy McKay, Ph.D.
University of Cincinnati
www.DrMcKay.com

Dr. McKay has approximately 40 years of national and international experience in all areas of respiratory protection including **research, teaching, clinical practice, peer reviewed publications, and consultation** as a faculty member at the University of Cincinnati. Dr. McKay is past chair of ANSI/AIHA Z88.10 (now ASTM), the committee responsible for "Respirator Fit Test Methods" and a member of ANSI/ASSE Z88.2-2015, which published the "American National Standard - Practices for Respiratory Protection". Respirator committee assignments also include the American Industrial Hygiene Association's Respiratory Protection committee. He has conducted respirator fit testing, training, and consultation services for governmental agencies, including OSHA, NIOSH, NPPTL, CDC, private industry, and respirator manufacturers. He's developed more than a dozen different continuing education courses on respiratory protection, which include fit testing, respirator selection, cartridge change out, program administration, filter penetration, protection factors, and other topics.

Disclaimer:

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