

Protect Yourself Pandemic Flu Respiratory Protection

Although influenza viruses are thought to be transmitted primarily by droplets through the air and contact with contaminated surfaces, it is possible that transmission could also occur by small particulates. Because of this, during a pandemic, it is recommended to use a NIOSH-certified respirator for work involving close contact with people who are or may be ill with the pandemic virus. The N95 particulate filtering facepiece respirators provide a minimum of protection whereas the N100, R100, and P100 respirators provide a much higher level of protection. A surgical mask is not a respirator and was not designed to protect the user from exposure.

NEXTTEQ® INTERNATIONAL

BETTER TECHNOLOGY. BETTER QUALITY. BETTER VALUE.



WHAT'S THE DIFFERENCE BETWEEN A MASK AND A PARTICULATE FILTERING FACEPIECE RESPIRATOR?

There are two different classifications for particulate filtering facepiece respirators; the letter and the number. Each particulate filtering facepiece respirator can be N, R, or P, and each can be 95, 99, or 100. Any combination of letter and number is valid for a particular kind of particulate filtering facepiece respirator.

One thing to note is the difference between particulate filtering facepiece respirators and masks. Masks can range anywhere from the little paper types you buy by the 100s for protection from dust, all the way up to low-end particulate filters and soft, comfortable cloth-based masks. The key element that makes them masks rather than particulate filtering facepiece respirators is that they don't have an air-tight seal against the face.

In order for a particulate filtering facepiece respirator to be certified by NIOSH and given a letter/number rating, it has to have an airtight seal. After all, if you're trying to filter out a dangerous chemical, particulate, or smoke, if the particulate filtering facepiece respirator isn't air-tight, that particulate can still get in around the mask. Therefore, for workplace safety and hazardous chemical handling, an air-tight seal is required. This certification makes it a particulate filtering facepiece respirator.

WHAT'S THE DIFFERENCE BETWEEN THE "N" "R" OR "P" CLASSIFICATION?

The important piece of information to note about letters is how they relate to oil. Yes, oil.

Oil and fat-based particulates are very small and "slippery," for lack of a better term. They are often capable of penetrating filters that non-oil particulates cannot, even when those particulates are small. These include everything from certain hazardous chemicals to viruses like SARS, which has a lipid (fat) shell around it.

Letter rating is pretty simple once you learn it. N rated particulate filtering facepiece respirators are Not resistant to oil-based particulates. They are some of the most common particulate filtering facepiece respirators, because they can be used for a long time and protect adequately from particulates like coal smoke, airborne particulate from stone grinding, and so on.

R rated particulate filtering facepiece respirators are classified as Resistant to oil-based particulates. They are not perfect filters, but they do an adequate job for a short service life. You'll rarely find R particulate filtering facepiece respirators, however, because of the inconvenience; they clog up over time and are only effective for around eight hours of use.

Finally, the P rated particulate filtering facepiece respirators are classified as oil-Proof. They are more effective at filtering out particulates that R rated particulate filtering facepiece respirators do not. Additionally, they last quite a bit longer; up to 40 hours of use or 30 days, whichever comes first. This makes them much more common in occupational and hazardous materials handling situations.

WHAT'S THE DIFFERENCE BETWEEN THE "95" "99" OR "100" RATING?

So what about the numbers? 95, 99, and 100 can be coupled with each type of letter, for nine total classifications.

In this case, it's basically just a percentage. 95-rated masks can filter out 95% of particulate matter. For things like rough construction dust and debris, this is generally fine. Likewise, it's good for short-term use, but longer-term use still leaves quite a bit of exposure to potentially dangerous particulate matter.

99-rated particulate filtering facepiece respirators can filter out 99% of particulate matter. You might think this is adequate for safety, and in many cases it is, but sometimes that 1% that slips through is still dangerous enough it can be harmful, particularly over long term exposure.

100-rated particulate filtering facepiece respirators filter 99.97% of particulate matter. Some tiny trace amounts may still slip through, but it's not enough to be harmful without sustained exposure for long periods of time.

Thus, the "weakest" particulate filtering facepiece respirator that still receives a classification is N95, which filters 95% of non-oil particulates. The strongest is P100, which filters 99.97% of oil and non-oil particulate.

WHO NEEDS TO WEAR A RESPIRATOR?

There are, of course, even more extreme forms of breathing protection available for cases where even a particulate filtering facepiece respirator won't suffice. These are typically closed-air systems, breathing out of tanks of compressed air similar to scuba gear or even a space suit. When you're operating in an environment so toxic that even a tiny amount of exposure can be deadly, it's better to be safe than sorry.

"Very High Exposure Risk" Workers with high potential exposure to known or suspected sources of pandemic virus during specific medical or laboratory procedures – for example, cough induction procedures, bronchoscopy, some dental procedures, invasive specimen collection, or manipulating lab cultures. These workers may need supplied-air or powered air-purifying respirators.

"High Exposure Risk" Workers with a high potential for exposure to known or suspected pandemic sources - for example, doctors, nurses, and other hospital staff who enter patients' rooms; and emergency responders transporting sick patients.

Other Workers whose work may not normally put them at Very High or High Exposure Risk but who, during a pandemic, are performing high-risk tasks such as isolating and quarantining people who are ill.

RESPIRATORY PROTECTION PROGRAM

When respirator use is required, they must be used in the context of a comprehensive respiratory protection program, (see OSHA standard 29 CFR 1910.134 or www.osha.gov) which includes:

- Medical evaluation
- Training
- Fit testing – VeriFit® is one of the four OSHA-accepted qualitative fit testing methods.
- Written program



WHEN TO CONDUCT A RESPIRATOR FIT TEST

OSHA 29 CFR 1910.134 requires that an employee using a tight-fitting facepiece respirator be fit tested at the following times:

1. Prior to initial use of the respirator.
2. Whenever a different respirator facepiece (size, style, model, or make) is used.
3. At least annually.

An additional fit test is required whenever the following occurs:

1. The employee reports changes in his/her physical condition* that could affect respirator fit.
2. The employer, PLHCP (physician or other licensed health care professional), supervisor, or program administrator makes visual observations of changes in the employee's physical condition* that could affect respirator fit.

* Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.





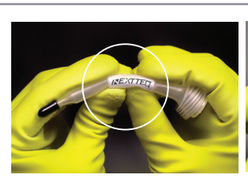
VERIFIT® IRRITANT SMOKE GENERATORS

NEXTTEQ IRRITANT SMOKE GENERATORS FOR RESPIRATOR FIT TESTING

The VeriFit® Irritant Smoke Generator revolutionizes respirator fit testing. Its patented plastic design integrates all traditional fit testing kit components into one convenient device. The small bellows size provides the optimum amount of smoke for fit testing yet minimizes the risk of overexposure.



Actual Size



1. Bend smoke generator in the middle to break the ampoule.



2. Remove black cap.



3. Wait 5 seconds for bellows to expand and air to enter smoke generator.



4. Compress bellows to generate smoke.

COMPARE QUALITATIVE FIT TESTING METHODS

	Irritant Smoke *Stannic Chloride*	**Banana Oil** *Isoamyl Acetate*	**Saccharin** *Solution Aerosol*	**Bitrex** *Denatonium Benzoate*
RELIABLE involuntary response if respirator leaks	**Yes**	No	No	No
ELIMINATES false negatives caused by olfactory or gustatory fatigue, loss of sense of smell or taste due to age or illness	**Yes**	No	No	No
ELIMINATES time spent preparing sensitivity test mixtures	**Yes**	No	No	No
ELIMINATES extra cost of nebulizers, pumps, hoods, and test mixing apparatus	**Yes**	No	No	No
ELIMINATES time and cost of chamber construction, pump and nebulizer calibration, battery charge time, test mask and probe sterilization, and clogged nebulizer cleaning	**Yes**	No	No	No
Test subject may eat, drink, chew gum, or smoke before test and not void test results	**Yes**	Yes	No	No
ELIMINATES cost of 2 nebulizers and time spent cleaning nebulizer every 4 hours	**Yes**	No	No	No



NEXTTEQ IRRITANT SMOKE TUBE KIT FOR RESPIRATOR FIT TESTING

P/N NX9500
Featuring Irritant Smoke Tubes, this qualitative respirator fit test provides a fast, safe, and reliable method to meet OSHA 29 CFR 1910.134. These test kits are always ready to use and do not require mixing or additional equipment. Kits contain everything needed for testing, including 10 irritant smoke tubes, aspirator bulb, tube tip breakers, 4 rubber end caps, tube protectors, manual and carrying case.

VERIFIT® IRRITANT SMOKE GENERATORS FOR RESPIRATOR FIT TESTING

P/N 50811000-310N (10 pack)
P/N 90095 (6 pack)
Each package of VeriFit® Irritant Smoke Generators includes the following:

- Ten (10) or Six (6) Smoke Generators (each a complete fit testing kit)
- One (1) Durable Recyclable Storage Box
- One (1) Comprehensive Manual

Unlike other test methods, there is no need for nebulizers, pumps, mixing jars, batteries, test masks, probes or hoods with VeriFit Irritant Smoke Generator.





NEXTTEQ NON-IRRITANT AIRFLOW TEST KIT

Test Kit P/N 2106 contains:
6 non-corrosive smoke tubes, aspirator bulb with tubing, rubber stoppers, manual and carrying case.
Nextteq AirFlow Replacement Tubes P/N NST0X1002106 contains:
6 non-corrosive smoke tubes.

Nextteq AirFlow Test Kits are always ready to use and do not require mixing or additional equipment. Kits contain everything needed for testing, including 6 non-corrosive smoke tubes. Analyzing air currents is simple and economical using Nextteq's AirFlow Test Kit. The non-corrosive smoke is safe for use in isolation room testing in hospitals, ventilation ducts, and other environments. To maximize efficiency, tubes can be plugged with the supplied rubber stoppers, and reused at other test sites.

VERIFIT® IRRITANT SMOKE GENERATORS

Respirators That May Be Qualitatively Fit Tested With Irritant Smoke*

RESPIRATOR TYPE	OSHA Accepted for Irritant Smoke Fit Test
HALF FACE MASK - negative pressure, APR (100 fit factor)	Yes
FULL FACE MASK - negative pressure, APR (100 fit factor) used in atmospheres up to 10 times the PEL	Yes
POWERED AIR PURIFYING RESPIRATOR (PAPR)	Yes
SUPPLIED - AIR RESPIRATOR (SAR) - used in positive pressure (pressure demand mode); IDLH atmospheres	Yes
SELF-CONTAINED BREATHING APPARATUS (SCBA) - used in positive pressure (pressure demand mode); structural firefighting; IDLH atmospheres	Yes
PARTICULATE FILTERING FACEPIECE RESPIRATORS (N100) - Filters at least 99.7% of airborne particles. Not resistant to oil. (R100) - Filters at least 99.7% of airborne particles. Somewhat resistant to oil. (P100) - Filters at least 99.7% of airborne particles. Strongly resistant to oil.	Yes
MOUTH BIT RESPIRATORS	Fit Testing Not Required
LOOSE FITTING RESPIRATORS - e.g. hoods, helmets	Fit Testing Not Required

* Adapted from OSHA Compliance Directive, CPL 2.120 Inspection Procedures for the Respiratory Protection Standard, Sept. 18, 1998.

FIELD-PROVEN AS AN OSHA-ACCEPTED RESPIRATOR FIT TESTING METHOD SINCE 1982.

Irritant smoke is the only OSHA-accepted qualitative fit testing method that relies on the test subject's involuntary response. It does not rely upon test subject's sense of smell or taste.

Qualitative fit tests such as banana oil (isoamyl acetate), saccharin, or Bitrex may cause false negative results. A common cause of false negative results is the failure of a test subject to identify a leak in the respirator.

Many factors cause test subjects to not notice a leak:

- Olfactory fatigue (reduction in ability to smell)
- Gustatory fatigue (reduction in ability to taste)
- Allergy or common cold
- Ingestion of food or drink prior to the test administration
- Reduced sense of smell or taste due to aging, smoking, or other causes

Irritant smoke qualitative respirator fit testing is an economical, fast, safe, and reliable fit testing method. Irritant smoke is used for testing a wide variety of respirators by firefighters, HazMat teams, first responders, the U.S. military, and countless industrial users. VeriFit Irritant Smoke Generators are designed to meet and be used in accordance with OSHA 29 CRF 1910.134.



NEXTTEQ® INTERNATIONAL

BETTER TECHNOLOGY. BETTER QUALITY. BETTER VALUE.

Nextteq International LLC
8406 Benjamin Rd. • Suite J • Tampa, FL 33634 USA • Tel: 813-249-5888 • Toll-free Tel: 877-312-2333
Fax: 813-249-0188 • Toll-free Fax: 877-312-2444 • Email: info@nextteq.com • www.nextteq.com

©2020 Nextteq International LLC, All rights reserved. Nextteq is a registered trademark of Nextteq International LLC. All other brand names and trademarks mentioned in this document are the properties of their respective holders. All features, specifications, and prices are subject to change without notice.
P/N NX90196 3/20